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clarion Service Manual

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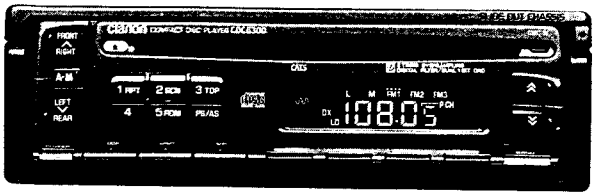


FM•MPX/MW/LW CD PLAYER WITH VF DECODER

Model CDC6300

(PE-2048A)

■SPECIFICATIONS:

RADIO SECTION

Tuning System:	PLL synthesizer tuner
Receiving Frequencies:	FM: 87.5 to 108 MHz (50 kHz steps) MW: 531 to 1,602 kHz (9 kHz steps) LW: 153 to 281 kHz (1 kHz steps)
Intermediate Frequency:	FM: 10.7 MHz MW/LW: 450 kHz

CD SECTION

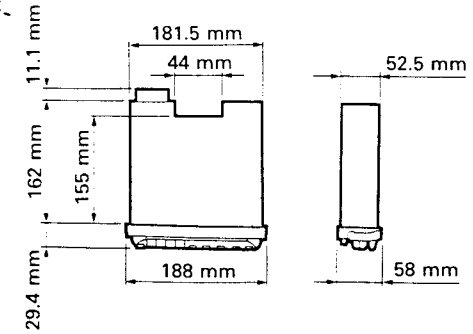
System:	Compact Disc Audio
Signal Format:	Sampling frequency 44.1 kHz×8
D/A Converters:	Dual 1-bit D/A converter
Frequency Response:	20 Hz to 20,000 Hz (±2 dB)
Dynamic Range:	92 dB (1 kHz)
S/N Ratio:	92 dB (1 kHz), IHF-A
Wow & Flutter:	Below measurement range
Distortion:	0.018%

GENERAL

Speaker Impedance:	4Ω×2
Power Supply Voltage:	DC 14 V (10.8 to 15.6 V), negative ground
Power Consumption:	7.5 A (at max. power output)
Auto Antenna Rated Current:	Max. 350 mA

Note:
Short-circuiting the auto antenna terminal or using an auto antenna with a current exceeding the rated current can damage internal circuits.
Always use with the rated current.

Dimensions:



Weight: 1.95 kg

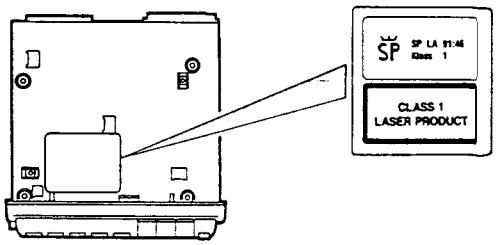
* Specifications and design are subject to change without notice.

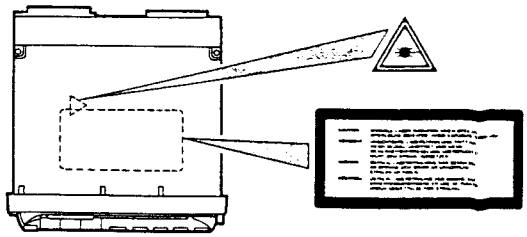
■COMPONENTS:

● **CDC6300 (PE-2048A-A)**

Main unit		1
Mounting bracket	300-6954-00	1
Parts bag	921-8735-00	1
Spacer	345-3653-01	1
Tap screw (5×16)	700-5016-80	1
Screw	716-0726-01	1
Nut	722-0314-00	1
Plate nut	725-0216-00	1

■PRECAUTIONS:





CAUTIONS:

This appliance contains a laser system and is classified as a "CLASS 1 LASER PRODUCT". To use this model properly, read this Owner's Manual carefully and keep this manual for your future reference. In case of any trouble with this player, please contact your nearest "AUTHORIZED service station". To prevent direct exposure to the laser beam, do not try to open the enclosure.

WARNING: Static discharges can destroy expensive components. Discharge any static electricity your body may have accumulated by grounding yourself to the ground bus in the unit (heavy gauge black wires connect to this buss).

IMPORTANT: Turn the unit OFF during disassembly and parts replacement. Recheck all work before you apply power to the unit.

CAUTION: USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE DO NOT LOOK INTO THE OPTICAL LENS AT ANYTIME

- When disassembling, be sure to turn off the power. Disconnecting a connector during power-on may destroy the internal IC.
- To protect the semiconductor laser from damage, the CD player will automatically terminate disc play when its internal temperature rises past a standard level. When this occurs, HH HHHH PAUSE will appear on the display to indicate that the standard level has been exceeded. Eject the disc from the unit using the eject button and wait untill the teperature returns to normal. (Note that the disc should be removed from the player for protection.)

■FEATURES:

TUNER
- Electronic Quartz-Locked PLL Tuning
- One-touch Memory (15 FM, 5 MW/LW)
- Tuning Modes: Manual Tuning and Station Seek in Both Directions
- Preset Scan (PS)
- Auto Store (AS) on FM/MW/LW
- Auto DX/LO Switching for Auto Store
- Super SASC II (Signal Actuated Stereo Control) & CZ1 Noise Canceller
- Automatic Traffic Information Reception (VF)
- Adjustable DK Level

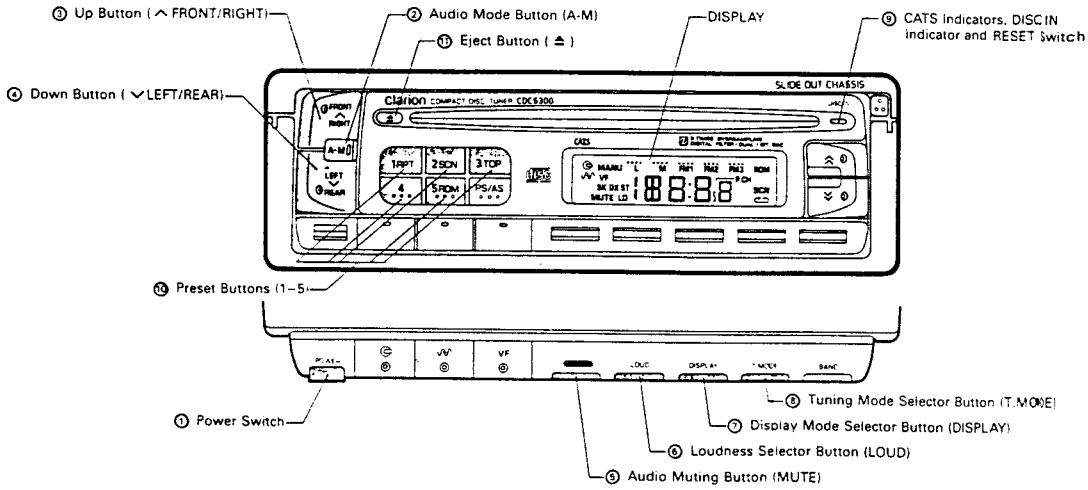
CD SECTION
- Low Vibration Suspension System
- 8 Times Oversampling Digital Filter
- Dual 1-bit "Bitstream" D/A Converters
- 3-Beam Laser Tracking System
- Direct Disc Loading System
- Random Playback–No Repeat
- Intro Music Scan
- Music Selection Repeat
- Track Music Search FF/FB
- Last Track Memory
- Automatic Disc Initializer (TOP)
- Automatic Reload after 15 Seconds
- DISC IN Indicator
- 8 cm CD Single Compatible
- Full Logic CD Controls

AUDIO SECTION
- Muting, Loudness, Fader, Bass/Treble
- Maximum Power Output: 25 W×2
- 4-channel Gold-plated RCA Line Level Output

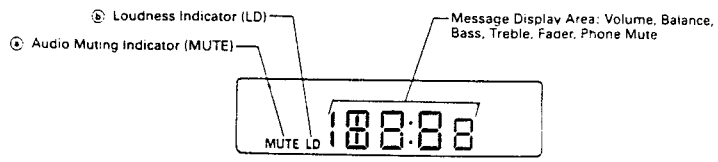
GENERAL
- CATS III (Computer Anti-Theft System)
- Night Illumination with Dual Colour Selector (Amber/Green)
- DIN Chassis with Slide-Out Bracket
- Triggered Phone Mute
- Power Antenna Activator
- LCD Display with Message Area
- Radio/CD Mode Selectors

■NAME OF CONTROLS AND FUNCTIONS:

GENERAL


③ Up Button (^ FRONT/RIGHT)
② Audio Mode Button (A-M)
DISPLAY
⑨ CATS Indicators, DISC IN indicator and RESET Switch
⑪ Eject Button (≜)
④ Down Button (v LEFT/REAR)
SLIDE OUT CHASSIS
Clarion
⑩ Preset Buttons (1–5)
① Power Switch
⑧ Tuning Mode Selector Button (T.MODE)
⑦ Display Mode Selector Button (DISPLAY)
⑥ Loudness Selector Button (LOUD)
⑤ Audio Muting Button (MUTE)

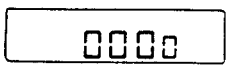
■ DISPLAY


⑫ Loudness Indicator (LD)
⑬ Audio Muting Indicator (MUTE)
Message Display Area: Volume, Balance, Bass, Treble, Fader, Phone Mute
MUTE LD

Operation

[1] Entering the CATS Code

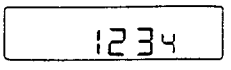
1. If the power is turned on, press the Power Switch ① to turn the unit off.
2. Press the T.MODE button ⑧, and while keeping it pressed, press the Power switch ① to turn on the power. This will enable input of the CATS code.



Digital Display

"0000" starts blinking on the display.

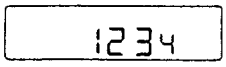
3. Input an arbitrary 4-digit number using the Preset buttons (1 to 5) ⑩.



(Example) Input 1-2-3-4

"0000" starts blinking again.

4. Input the same four digits again.



(Example) Input 1-2-3-4

When the second input of the CATS code has been correctly done, the CATS code is registered. The unit's power turns on after "CODE" appears on the display.

Notes:

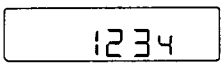
1. Do not forget your CATS code. In the event that you lose your RADIO PASS card and forget your CATS code, your dealer can send the unit to the factory to have the CATS code erased; but only if you can prove you are the rightful owner of the unit.
2. In case you have input a wrong 4-digit code in step 3:
   If, for example you input 2-2-3-4 instead of 1-2-3-4, input any 4-digit number other than 2-2-3-4 in step 4. The unit will then return to the condition in step 2, where "0000" blinks on the display. Continue by keying in the correct CATS code.
3. If the input numbers in step 3 and 4 do not match:
   If you input, for example, 1-2-3-4 in step 3 and then 2-2-3-4 in step 4, the unit will return to its original condition. Continue with steps 3 and 4.
4. In case you realise your mistake before entering all 4 digits in step 3 or 4, enter any digits to complete the entry. Then proceed as explained in notes 2 or 3 above.
   Proceed in the same way to correct input mistakes made during [2] Releasing CATS or [3] Erasing and Changing the CATS Code.

[2] Releasing the CATS Code (when you have removed the car stereo or sent the car for servicing)

1. Turn the power on by pressing the Power switch ①.

Digital Display
"0000" starts blinking on the display.

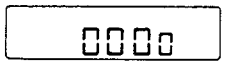
2. Input your CATS code.



(Example) Input 1-2-3-4

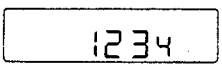
[3] Erasing and Changing the CATS Code

1. If the power is turned on, press the Power Switch ① to turn the unit off.
2. Press the T.MODE button ⑥, and while keeping it down, press the Power switch ① to turn on the power.



Digital Display
"0000" starts blinking on the display.

3. Input your CATS code.



The CATS code has now been erased, and the unit will operate normally.
To input a new CATS code, follow the steps in [1] Entering the CATS Code.

When the erasure of the CATS code has been completed, the power to the unit will be switched on.

Note: In case you input a wrong CATS code in step 3, you must wait for 15 seconds before the unit accepts a new code. In this case, return to "[2] Releasing the CATS Code", then input the correct CATS number as explained in [2] 2., operate the unit, then perform the steps in "[3] Erasing and Changing the CATS Code".

Servicing

Should your car stereo malfunction, fill in the RADIO PASS card and bring it to the repair shop together with the unit. You may also erase the CATS code yourself as explained in [3] Erasing and Changing the CATS Code, and then bring in the unit for servicing.

■ GENERAL

CAUTION: Turning the ignition on or the Power switch ① on when the volume control is set to maximum or a very high level may cause damage to your hearing.

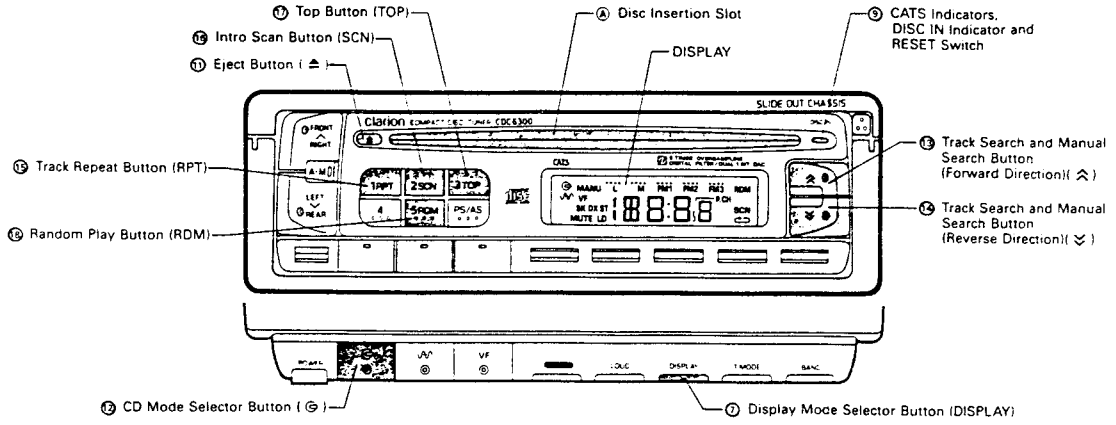
* **Power Switch** ☛ ①
  Press once to turn on the power. The illumination will light. Press once more to turn off the power.
* **Audio Mode Button (A-M)** ☛ ②
  The audio mode is normally set to the VOL (volume) control mode. Press this button to select another audio mode. The audio mode switches in the order BASS, TRE (Treble), BAL (left/right balance), FAD (front/rear fader) and then back to VOL. The selected mode is indicated on the display.
* **Up Button (∧ FRONT/RIGHT)** ☛ ③
  Down Button (∨ LEFT/REAR) ☛ ④
  Use these buttons to adjust the level or balance of the selected audio mode. (See page 7.)
* **Audio Muting Button (MUTE)** ☛ ⑤, ⑧
  Press this button to mute audio output. The "MUTE" indicator will flash. Press once more to release muting and restore the sound volume to the original level.
* **Loudness Selector Button (LOUD)** ☛ ⑥, ⑥
  Press this button to emphasize low and high frequency sounds when listening at low or medium levels. The "LD" indicator will light and you will get a more powerful sound.
  Press once more to turn off loudness.
* **Switching the illumination colour** ☛ ⑦, ⑧
  The illumination colour of the set can be switched by keeping the Display Mode Selector Button ⑦ pressed and pressing the Tuning Mode Selector Button ⑧. Each time the Tuning Mode Selector Button ⑧ is pressed, the illumination will alternate between amber and green.
* **Triggered phone mute (for use with a cellular phone)**
  When a call is received on the cellular phone, the "TEL" indicator lights and sound from the CDC6300 is muted. CD play will pause while "TEL" is displayed. When the phone is hung up, the previous operation resumes.

■ AUDIO MODE DISPLAY AND OPERATIONS

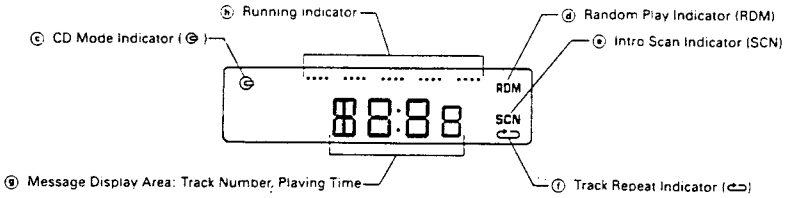
Audio Mode \ Up/Down Buttons	LEFT ∨ 0 REAR	Centre Position (flat response)	0 FRONT ∧ RIGHT	Operation
VOL (volume control)		(medium setting)		When the numerical value decreases, the volume level is lowered; when the numerical value increases, the level goes up.
BASS (bass control)	(negative display)			A negative value indicates a bass cut while a positive one indicates a bass boost. (Adjustment range is −7 to 7.)
TREB (treble control)	(negative display)			A negative value indicates a treble cut while a positive one indicates a treble boost. (Adjustment range is −7 to 7.)
BAL (left/right balance control)				"B0" indicates equal volume levels in both channels. When the "BL" value increases the volume in the left channel increases, and if the "BR" value increases the volume in the right channel increases.
FAD (front/rear fader control)				"F0" indicates equal volume levels in the front and rear speakers. When the "FR" value increases the volume in the rear speakers increases, and if the "FF" value increases the volume in the front speakers increases. (Only applicable for a 4-speaker system using the LINE-OUT terminals.) • The built-in amplifier is for front speaker driving only. When using this unit alone, connect it to the front speakers.

Note 1: In the BAL and FAD modes, the control steps will not correspond to the indicated values because of the large number of steps.
Note 2: After adjusting the audio modes as required, press the Display Mode Selector Button ⑦ to return to the original display.
Note 3: Or, the display will automatically return to the original setting in five seconds if no key is pressed.

CD SECTION


⑰ Top Button (TOP)
⑱ Intro Scan Button (SCN)
⑪ Eject Button (≜)
Ⓐ Disc Insertion Slot
DISPLAY
⑨ CATS Indicators, DISC IN Indicator and RESET Switch
⑮ Track Repeat Button (RPT)
⑯ Random Play Button (RDM)
⑬ Track Search and Manual Search Button (Forward Direction)(⌃⌃)
⑭ Track Search and Manual Search Button (Reverse Direction)(⌄⌄)
⑫ CD Mode Selector Button (⊖)
⑦ Display Mode Selector Button (DISPLAY)

■ DISPLAY


ⓑ Running Indicator
ⓒ CD Mode Indicator (⊖)
ⓓ Random Play Indicator (RDM)
ⓔ Intro Scan Indicator (SCN)
RDM
SCN
ⓖ Message Display Area: Track Number, Playing Time
ⓕ Track Repeat Indicator (⇄)

■ CD SECTION

*** Playback**

1. Turn the power on pressing the Power switch ①. ☛ ①
2. Hold the Compact Disc with the label facing up and insert it into the Disc Insertion Slot. When the disc is inserted about half-way, the auto loading mechanism takes over and loads the disc correctly. ☛ Ⓐ, ⑨
3. Once the disc has been loaded, the DISC IN indicator ⑨ and the CD Mode indicator (⊖) ⓒ light and playback will start from track no. 1. The Running indicator ⓑ will move from left to right to indicate CD play is in progress. ☛ ⑨, ⓒ, ⓑ

Note: Check whether the DISC IN indicator is lit before inserting a CD. If a CD is already loaded, forcing a new CD into the slot can scratch the disc and damage the set.

■ Operation

*** Eject Button (≜) ☛ ⑪**

Press this button during playback or when a disc is loaded to eject the CD.

Notes:

1. Pressing the CD Mode Selector Button ⑫ or pushing the CD after it has been ejected will cause the disc to be loaded and played back again.
2. Once the CD is ejected, be sure to remove it from the Disc Insertion Slot within 15 seconds. Otherwise it will reload automatically to protect it from damage. Disc play will not start in this case, however.
3. When using 8-cm CD singles, the CD cannot be loaded by pressing the CD Mode Selector Button ⑫ and the auto reloading function, described above, will not work.

*** CD Mode Selector Button (⊖) ☛ ⑫**

1. Press this button when you want to switch from the Tuner mode to the CD mode.
2. If this button is pressed during CD playback, playback will pause. Press the button once more to release the pause mode and continue CD playback.

*** Track Search and Manual Search Buttons**

1. **Forward Direction (⌃⌃) ☛ ⑬**
   Each time this button is pressed during playback, the track number on the display will increase by one (track search). Keeping the button pressed, playback will speed up for quick search to a desired point in the track (manual search). If the button is kept pressed for 5 seconds or more, the CD is played back at 15 times the normal playback speed.
2. **Reverse Direction (⌄⌄) ☛ ⑭**
   Each time this button is pressed during playback, the track number on the display will decrease by one (track search). Keeping the button pressed, the track will be played quickly in reverse for quick search to a desired point in the track (manual search). If the button is kept pressed for 5 seconds or more, the CD is played back in reverse at 15 times the normal playback speed.

*** Track Repeat Button (RPT) ☛ ⑮, ⓕ**

Press this button to play a track repeatedly. When the button is pressed during CD playback, "⇄" lights on the display and the track currently playing is played repeatedly. To cancel repeat playback, press the button once more. The "⇄" indicator goes out and normal playback resumes.

*** Intro Scan Button (SCN) ☛ ⑱, ⓔ**

Use this button to find a certain track on the CD. When the button is pressed, the "SCN" indicator ⓔ lights and the first 10 seconds of each track are played. To stop Intro Scan operation, press this button once more. The "SCN" indicator goes out and normal playback resumes.

*** Top Button (TOP) ☛ ⑰**

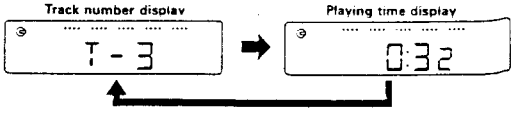
Use this button to start playback from the beginning of the CD. When pressed, playback will start over from the beginning of track 1.

*** Random Play Button (RDM) ☛ ⑯, ⓓ**

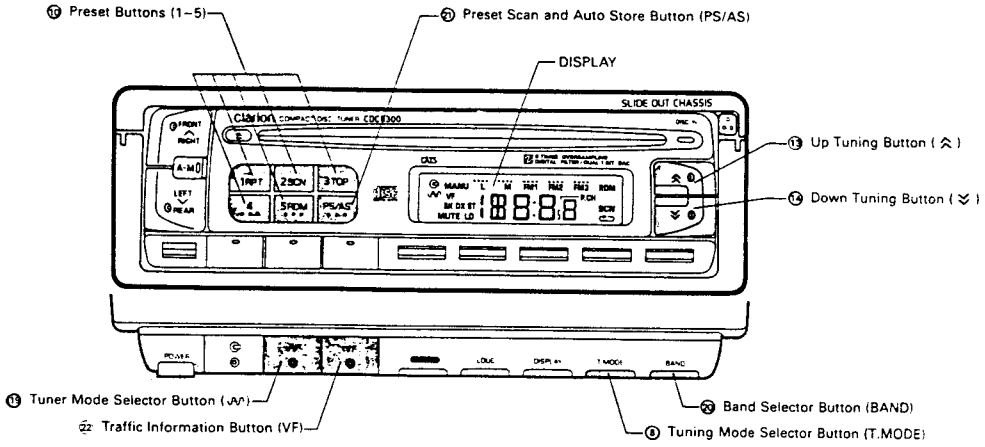
When this button is pressed during CD playback, the "RDM" indicator ⓓ lights and the tracks on the CD will be played back in a random order, generated by the built-in microprocessor. To cancel random playback, press this button once more. The "RDM" indicator goes out and normal playback resumes.

*** Display Mode Selector Button (DISPLAY) ☛ ⑦, ⓖ**

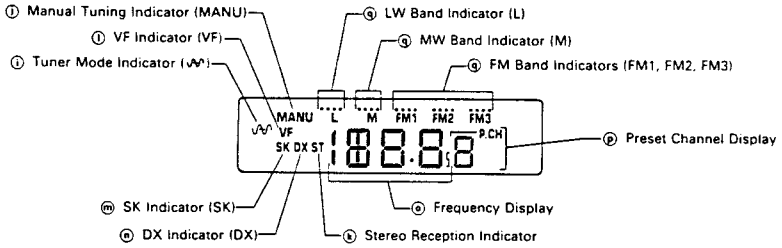
Use this button to select between display of track numbers or the playing time.



RADIO SECTION


⑩ Preset Buttons (1–5)
㉑ Preset Scan and Auto Store Button (PS/AS)
DISPLAY
SLIDE OUT CHASSIS
⑬ Up Tuning Button (⩝)
⑭ Down Tuning Button (⩛)
⑮ Tuner Mode Selector Button (∧∧)
㉒ Traffic Information Button (VF)
⑧ Tuning Mode Selector Button (T.MODE)
⑳ Band Selector Button (BAND)

■ DISPLAY



■ RADIO SECTION

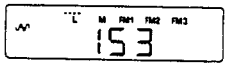
■ Operation

* **Tuner Mode Selector Button (∧∧)** ☛ ⑮, ①, ⑥, ⑨
Press this button to switch from the CD mode to the Tuner mode. When this button is pressed, the Tuner Mode indicator (∧∧), one of the Band indicators (■■■■) and the frequency light, and radio broadcasts can be listened to.

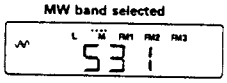
* **Band Selector Button (BAND)** ☛ ⑳, ⑨
Press this button to switch to another reception band. Each time this button is pressed, the reception band changes in the following order: FM1 → FM2 → FM3 → LW/MW → FM1, etc. The selected band can be confirmed with a quick glance at the display. Four square dots (■■■■) will light above the Band indicator corresponding to the band you are listening to.

The frequency being received is displayed here. The frequency is displayed in units of kHz for the LW/MW bands and MHz for the FM band.

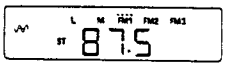
LW band selected



MW band selected



FM1 band selected



* **Up/Down Tuning Buttons (⩝ , ⩛)** ☛ ③, ⑬, ⑭, ①, ⑥
  - **Manual Tuning**
  Press the Tuning Mode Selector button ⑧ so that "MANU" lights on the display.
  Press the Up Tuning button ⑬ to increase the displayed frequency or press the Down Tuning button ⑭ to decrease the frequency. The frequency changes in steps of 50 kHz on the FM band, 9 kHz on MW and 1 kHz on LW.
  Keeping one of the buttons pressed will change the frequency continuously.

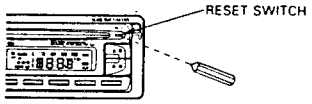
  - **Seek Tuning (DX/Local)** ☛ ⑧, ⑬, ⑭, ①, ⑱, ⑥
  Use this mode to search for broadcasting stations.
  Press the Tuning Mode Selector button ⑧ so that "MANU" goes out on the display. Press the Up Tuning button ⑬ or Down Tuning button ⑭ to seek for a station broadcasting at a higher or lower frequency on the selected band. When a station is found, seek tuning stops.
  During seek tuning, the frequency changes in steps of 50 kHz on the FM band, 9 kHz on MW and 1 kHz on LW.
  Keeping the Tuning Mode Selector button ⑧ pressed for more than 2 seconds, the set will switch between DX and Local sensitivity.
  When the DX mode is set ("DX" indicator ⑱ lit), seek tuning will stop whenever a station is found. When local sensitivity is set ("DX" indicator ⑱ not lit), seek tuning will only tune in stations with strong signals, in other words stations broadcast from local transmitters.

* **Preset Scan and Auto Store Button (PS/AS)** ☛ ⑩, ⑳, ㉑, ⑥, ⑯, ⑨
  Auto Store: Pressing this button for more than two seconds, up to five strong stations in the area are stored on the five presets for the selected band.
  Auto Store is convenient when driving away from home when you do not know the frequency assignment of local stations.
  Preset Scan: Pressing the switch for less than two seconds, the preset stations on the selected band are scanned.
  In this way you can quickly decide on which station of the preset ones you want to listen to.

* **Traffic Information Button (VF)** ☛ ㉒, ①, ⑰
1. Traffic information broadcasts are special announcements to alert drivers of road blocks, congestions, etc. on the roads. These broadcasts are broadcast on major radio stations. (Germany, Switzerland and Austria)
   When the "SK" indicator is lit, this signifies that the station tuned in transmits traffic information broadcasts.
   Using the VF button ㉒, you can select automatic reception of Traffic Information broadcasts ("VF" indicator lit). This means that if a traffic information broadcast is aired while you listen to a CD, CD play will pause and the announcement can be heard. When the announcement is completed, CD playback continues. Traffic Information announcements are reproduced at a preset volume level and can be heard even if the volume level is set to minimum.
   "INFO" appears on the display during reception of traffic information broadcasts.
2. If the VF button ㉒ is pressed while a station not broadcasting traffic information is being received, the unit will search for a station broadcasting such information and tune into it if possible.
3. If the "VF" indicator lights during Seek Tuning or Auto Store, only stations broadcasting Traffic Information will be heard or stored in memory.

* **Adjusting the Volume of Traffic Information Announcement**
☛ ③, ④, ㉒, ⑥
The volume level for traffic information announcements has been preset at the factory. It is possible to change this level if required.
1. Tune in the traffic information station broadcasting the strongest signal you can find.
2. Keep the VF button ㉒ pressed for 2 seconds. "VF18" will be displayed.
3. Use the Up button ③ and Down button ④ to change the volume level of traffic information announcements. The minimum level is 13 and maximum level 23.
4. Once a suitable level has been set, press the VF button ㉒ once more to return to normal operation.

■ TROUBLESHOOTING

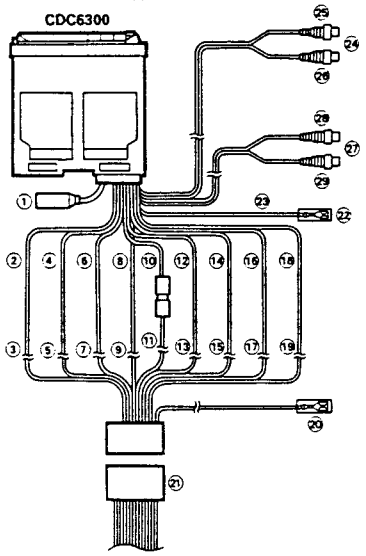
PROBLEM	CAUSE	REMEDY
Nothing happens when a button is pressed. Incorrect display.	Malfunction of built-in microprocessor due to electrical noise, etc.	Turn off the Power switch or turn off the ignition switch completely. Press the Reset switch with e.g. a ballpoint pen. 

■ **This unit incorporates a variety of diagnostic functions for protection of the system. If damage to the system occurs, an error display will appear. Be sure to act in accordance with the Recommended Remedy.**

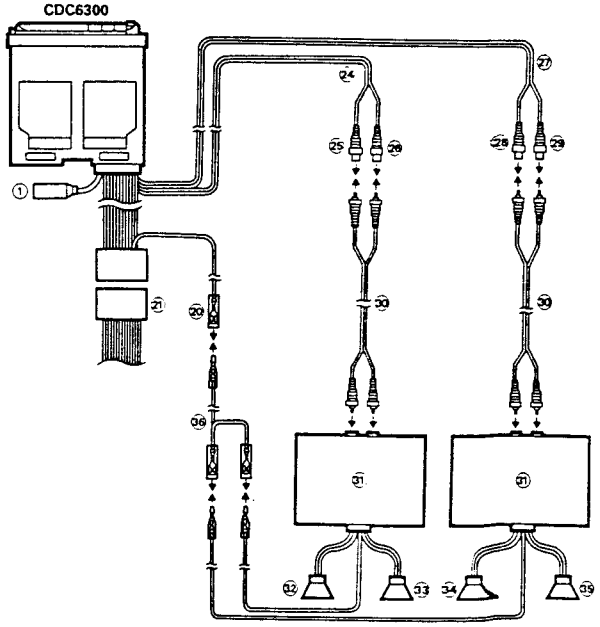
Error Display	Recommended Remedy
ⓒ HHHH	Displayed in the CD mode. Temperature is too high. →Wait until the temperature has settled to normal.
ⓒ ER 2	Display in the CD mode. Indicates a malfunction in the CD mechanism (e.g. the ejecting and loading system does not operate.) →The CD mechanism could have been damaged. Refer the problem to your dealer or the nearest AUTHORISED Clarion service centre.
ⓒ ER 3	Displayed during CD playback. Indicates pick-up focus failure, which is most likely due to serious scratches on the CD. →Check the disc for scratches.

■ WIRE CONNECTIONS

■ **2-speaker application ㊲**



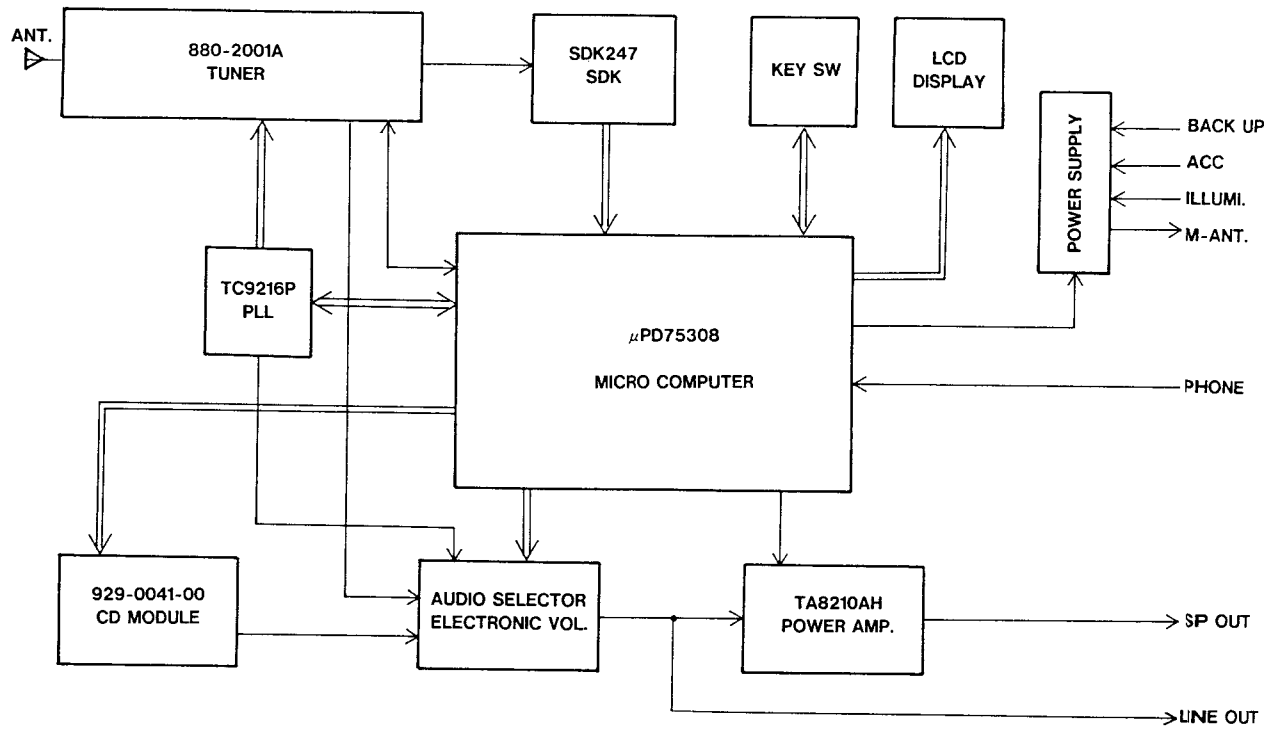
■ **4-speaker application 2×2-channel high-power amplifier ㊳**



① ANTENNA
② FRONT RIGHT ⊕
③ GRAY
④ FRONT RIGHT ⊖
⑤ GRAY/BLACK
⑥ FRONT LEFT ⊕
⑦ WHITE
⑧ FRONT LEFT ⊖
⑨ WHITE/BLACK
⑩ ACCESSORY +12 V
⑪ RED
⑫ GROUND
⑬ BLACK
⑭ AUTO ANTENNA
⑮ BLUE/WHITE
⑯ ILLUMINATION
⑰ ORANGE/WHITE
⑱ PERMANENT
⑲ YELLOW
⑳ AMP REMOTE (BLUE/WHITE)
㉑ Interface connector for desired car application
㉒ PHONE MUTE (to external mute lead of cellular telephone)
㉓ BROWN
㉔ RCA LINE OUTPUT (GRAY LEAD)
for connection of external power amplifier
㉕ RED (FRONT RIGHT)
㉖ WHITE (FRONT LEFT)
㉗ RCA LINE OUTPUT (BLACK LEAD)
for connection of external power amplifier
㉘ RED (REAR RIGHT)
㉙ WHITE (REAR LEFT)
㉚ RCA TERMINAL EXTENSION CORD
(separately available)
㉛ **STEREO POWER AMPLIFIER**
㉜ **FRONT LEFT SPEAKER**
㉝ **FRONT RIGHT SPEAKER**
㉞ **REAR LEFT SPEAKER**
㉟ **REAR RIGHT SPEAKER**
㊱ **EXTENSION CORD** (separately available)
㊲ **2-speaker application**
㊳ **4-speaker application 2×2-channel high-power amplifier**

Notes:
1. 4-speaker application
Use either the front speaker leads (②, ④, ⑥ and ⑧) and the RCA LINE OUT terminals ㉗ with a 2-channel amplifier or the RCA LINE OUT terminals ㉔ and ㉗ with a 2×2-channel amplifier.
2. Use speakers with an impedance of 4Ω and input of 25 W or greater. When using an external power amplifier, please be sure to use compatible speakers.
3. Improper installation may cause damage to your unit or car. If you do not have appropriate experience, consult a qualified installer.
4. For other system applications, contact your dealer for details.

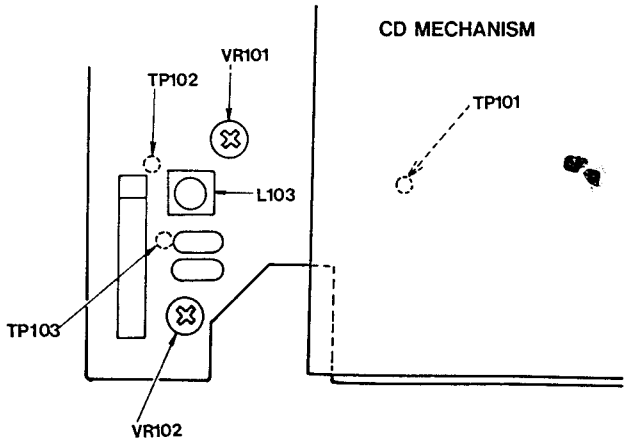
■BLOCK DIAGRAM:



■ADJUSTMENT:

Item	Adjustment point	Procedure
SK	L103	1. Apply SK modulation only by adjusting SG input to 98.1MHz, 65dB. (L+R, PILOT, BK, DK=OFF) 2. Connect a 10 : 1 probe to TP102, and adjust L103 until waveform indicated on the oscillator becomes maximum. (AC MODE)
DK	VR102	1. Apply SK and DK modulation only by adjusting SG input to 1MHz, 65dB. (L+R, PILOT, BK=OFF) 2. Connect a 10 : 1 probe to TP103, and adjust VR102 until waveform indicated on the oscillator becomes maximum. (AC MODE)
VF-RETUNE Sense	VR101	1. Apply modulation frequency of 400Hz (100% MOD) by adjusting SG input to 98.1MHz, 25dB. (L+R, PILOT, BK, DK, SK=ON) 2. Connect a 10 : 1 probe to TP101, and adjust VR101 until waveform indicated on the oscillator becomes ⎍⎍⎍ (DC MODE)

● ADJUSTMENT POINT



■PROCEDURE FOR REPAIR AND ADJUSTMENT:

1) Cautions

- This unit, as operates on single power supply, operates on the basis of various mid-point potential (such as, 2.5V and 4.7V mid points).
- When observing the operating state from the reference by an oscilloscope, connect CH1 GND to the mid point for measurement. The other probe GND should not be connected anywhere.
- When measuring the laser current, the misconnection of the measuring point may damage the laser (in the pick-up section).

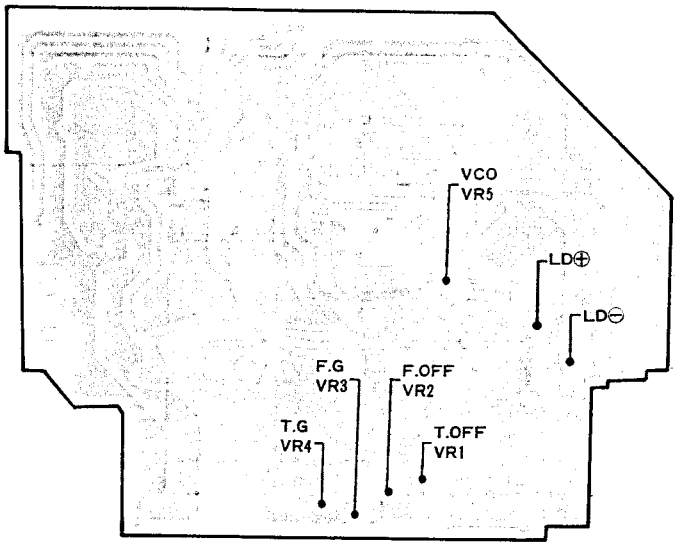
2) Test Disc

- SONY TYPE4 (YEDS18) 12cm
- ABEX MODEL TCD-783 8cm

3) Follow the precautions in handling the pick-up of special notes on page 2.

4) Adjusting order

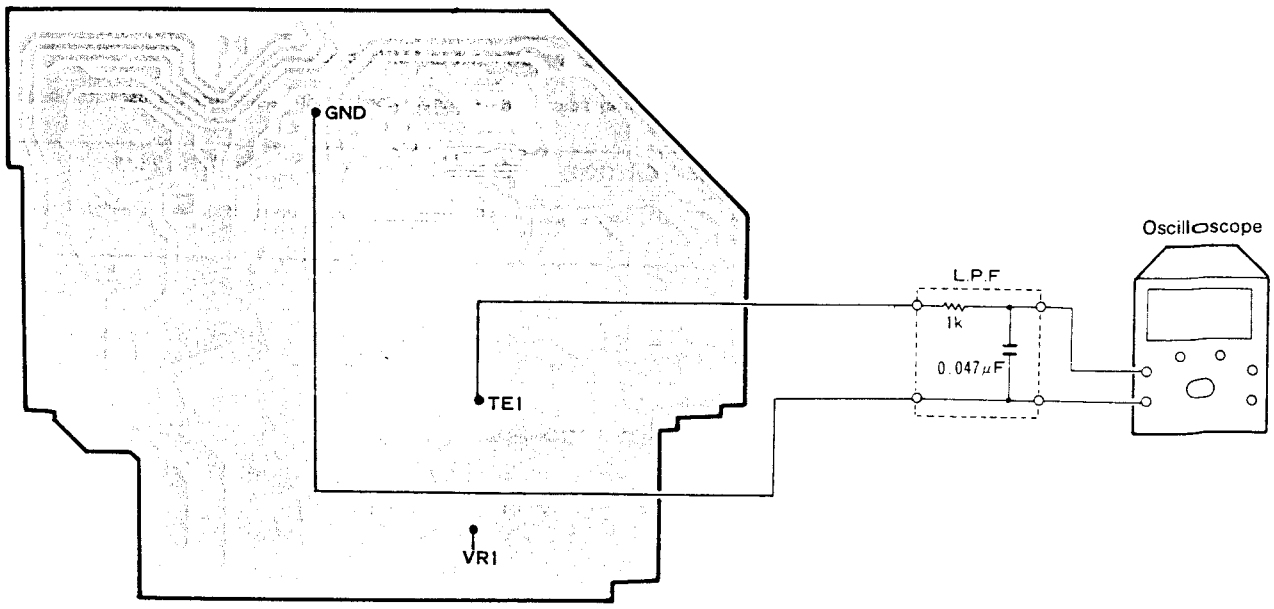
1. Tracking offset
2. Focus offset
3. Focus gain
4. Tracking gain



■Adjusting Tracking Offset

- **Purpose**
  To optimize the EF balance of the tracking servo.
- **When adjustment is incomplete**
  It takes a long time for search. The carriage runs away.
- **Measuring instrument**
  Oscilloscope
- **Measuring point**
  TP TE1
- **Test disc and setting state**
  SONY TYPE4, normal mode
- **Adjustment** : VR1

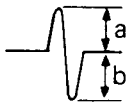
Connection diagram



Adjusting procesure

1. Make sure that the power is turned off and connect the measuring instrument as indicated in the above diagram.
2. Play back the first music of SONY TYPE4.
3. Perform the manual search and check the state of TR Jump (track jump) by an oscilloscope.

Adjust the tracking offset adjustmenting volume (VR1) so that the waveform may become symmetrical in both forward and reverse modes.

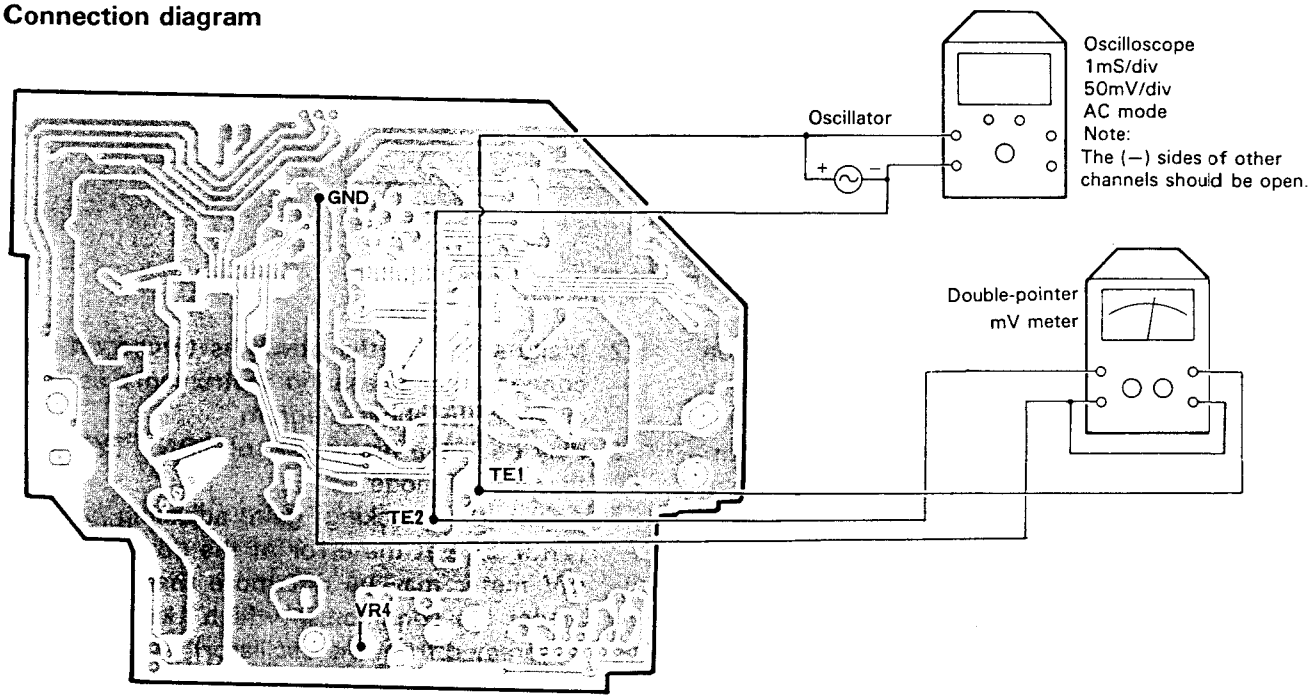


Adjust so as to be a ≒ b.

■Adjusting the Tracking Servo Loop Gain

- **Purpose**
  To adjust the tracking servo loop gain to be optimum value.
- **When adjustment is incomplete**
  The playability and vibration proof are deteriorated.
- **Measuring instrument**
  Oscillator, double-pointer mV meter
- **Measuring point**
  SERTR1, SERTR2, TP, TE1, TE2
- **Test disc and setting state**
  SONY TYPE4, normal mode
- **Adjustment** : VR4

Connection diagram



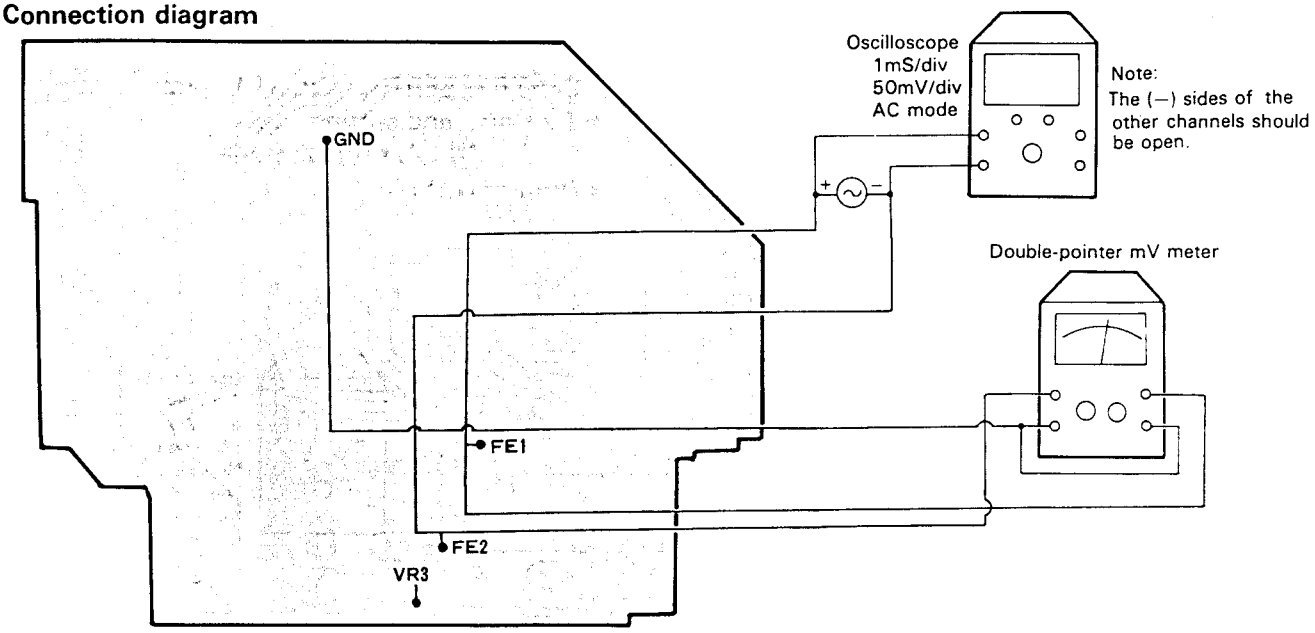
Adjusting procedure

1. Preset the oscillator. Set the output amplitude with no load to be 1Vp-p (at 1kHz).
   Note: The set value of the output level varies slightly depending on the oscillator. This set value is the one when the oscillator of about 500Ω output impedance is used. Adjustment should be made under the condition in which the servo can be activated stably even after the output of the oscillator was applied, causing no mistracking. Low output impedance provides low set output.
2. Make sure that the power is turned off and connect the measuring instruments as indicated in the above diagram.
3. Play back the first music of SONY TYPE4.
4. Adjust the tracking gain adjusting volume (VR4) so that the error of the double-pointer mV meter may be not more than 0±0.5dB (under the condition in which 1kHz output is generated from the oscillator).

■Adjusting the Focus Servo Loop Gain

- **Purpose**
  To adjust the focus servo loop gain to be optimum value.
- **When adjustment is incomplete**
  The playability and vibration proof are deteriorated. S detection is apt to fail.
- **Measuring instrument**
  Oscillator, double-pointer mV meter
- **Measuring point**
  TP FE1, FE2
- **Test disc and setting state**
  SONY TYPE4, normal mode
- **Adjustment** : VR3

Connection diagram



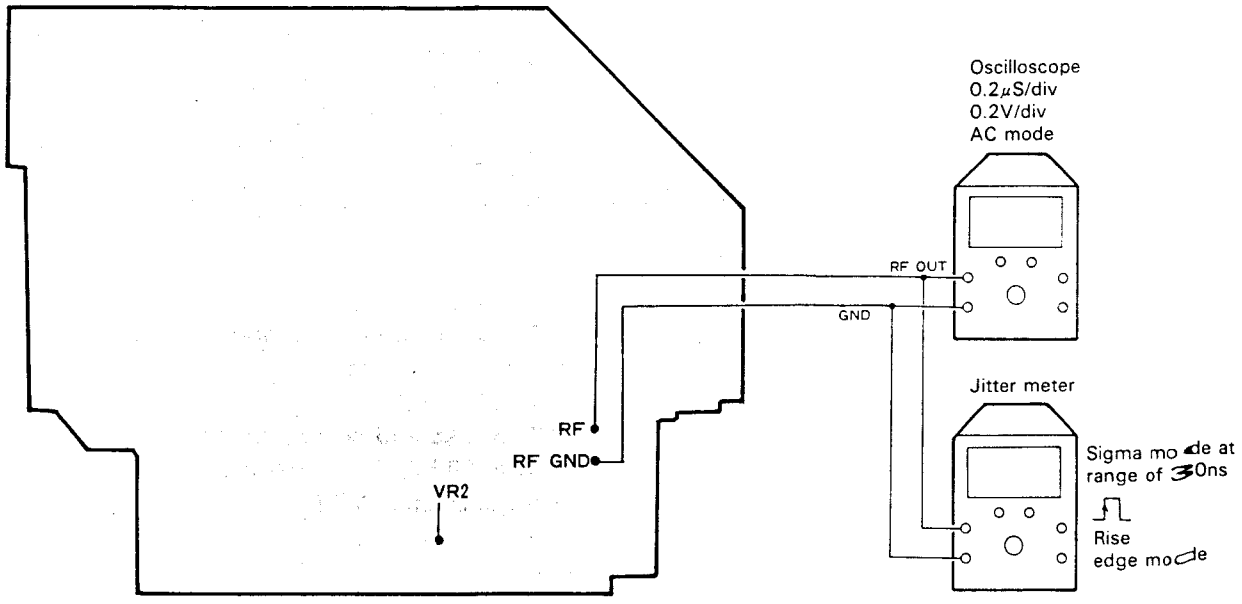
Adjusting procedure

1. Preset the oscillator. Set the output amplitude with no load to be 1Vp-p (at 1kHz).
   Note: The set value of the output level varies slightly depending on the oscillator. This set value is the one when the oscillator of about 500Ω output impedance is used. Adjustment should be made under the condition in which the servo can be activated stably even after the output of the oscillator was applied, causing no mistracking. Low output impedance provides low set output.
2. Make sure that the power is turned off and connect the measuring instruments as indicated in the above diagram.
3. Play back the first music of SONY TYPE4 in the normal mode.
4. Adjust the tracking gain adjusting volume (VR3) so that the error of the double-pointer mV meter may be not more than 0±0.5dB (under the condition in which 1kHz output is genereated from the oscillator).

■Adjusting the Focus Offset

- **Purpose**
  To adjust the focus servo bias to be optimum value.
- **When adjustment is incomplete**
  The focus is hard to be closed. Playability is deteriorated.
- **Measuring instrument**
  Oscilloscope
- **Measuring point**
  RF
- **Test disc and setting state**
  SONY TYPE4, normal mode
- **Adjustment** : VR2

Connection diagram



Adjusting procedure

1. Play back the first music in the normal mode.
2. Connect the RF OUT to the jitter meter (Meguro) and adjust the focus offset adjusting volume (VR2) so that the jitter may be optimized.

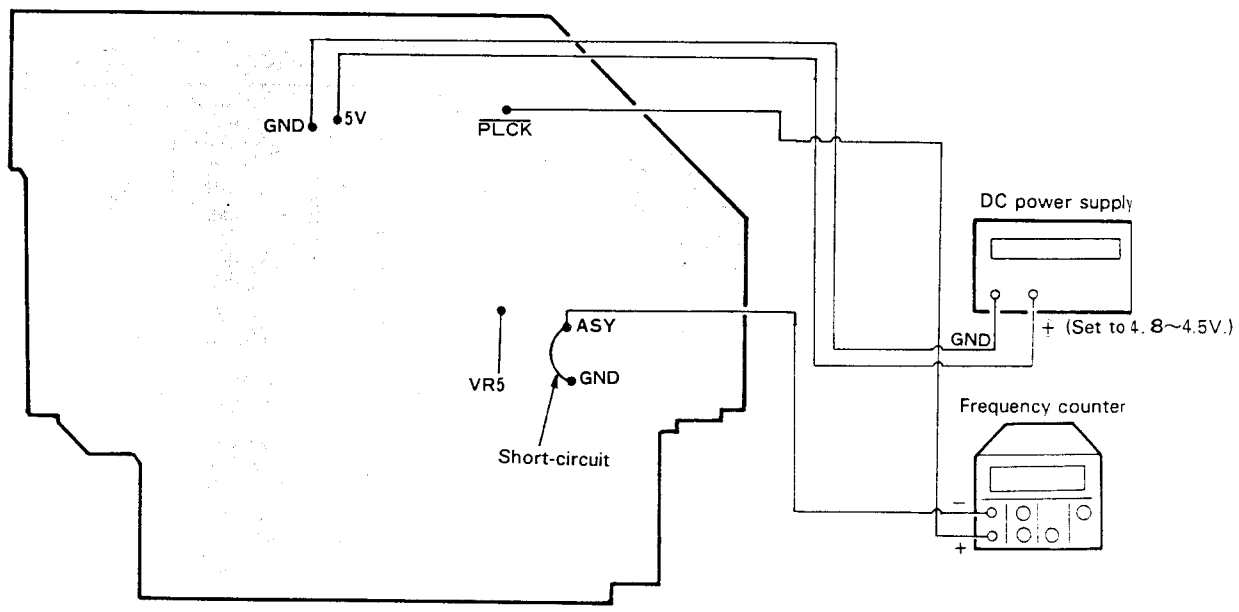
(When there is no jitter meter, observe the RF OUT based on GND by an oscilloscope and adjust VR2 so that RF may be maximized and the eye pattern may be omptimized.)

Note: Use the probe of 10 : 1 for connection to the jitter meter.

■Adjusting VCO Free-run Frequency

- **Purpose**
  To adjust the free-run frequency of reference clock for EFM decoder to be optimum value.
- **When adjustment is incomplete**
  Spindle lock is impossible. The sound is not emitted or breaks.
  The long access time is long. (22 music → 1 music or 1 music → 22 music by SONY TYPE4).
- **Measuring instrument**
  Frequency counter, various jigs for test mode
- **Measuring point**
  Pin 70 of $\overline{\text{PLCK}}$ CXD1167
- **Adjustment** : VR5

Connection diagram



1. Remove the mechanical module from the set.
2. Short-circuit ASY to GND.
3. Connect A-Vcc and 5V to the DC power supply.
4. Turn ON the power.
5. Read the numeric value from the frequency counter.
6. Adjust to be F=4.20MHz± 10kHz.
7. Turn OFF the power.
8. Disconnect the connection.

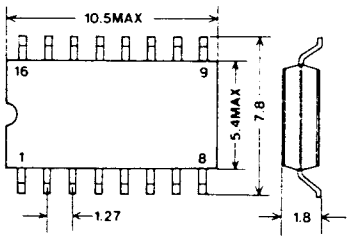
■EXPLANATION OF IC's:

Refer to description in IC service manual vol. 2.			
NJM2058M	051-0556-01	Quad. OP. Amp.	P41
NJM2903M	051-0599-51	Dual Single-Supply Comparator	P42

Refer to description in IC service manual vol. 3.			
M5201FP	051-0853-01	Switch OP. Amp.	P30
LC7537AN	051-0866-05	Electronic Volume	P18
MB3771PF(-G)	051-0869-05	Power Supply Voltage Supervisory IC	P41
TA8210AH	051-1111-01	19W BTL×2CH Power Amp.	P24

■TC74HC123AF 051-1139-06 DUAL RETRIGGERABLE MONOSTABLE MULTIVIBRATOR

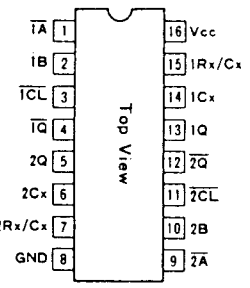
Outward Form



Outline

This IC is a monostable multivibrator which has 2 high-speed CMOS circuits. For trigger inputs, there are $\overline{A}$ input, which triggers at a fall edge, and B input and $\overline{CL}$ input which trigger at a rise edge. As they are all Schmidt trigger inputs, they securely operate even when a rise or fall time is long ($t_r = t_f = 1s$.). Once triggered, an output continues a constant-time single stable mode which is determined by an external resistor and a condenser, as far as the $\overline{CL}$ input is set to "L". If another trigger input is given within a single stable time, that trigger also becomes valid to allow the single stable mode to be maintained.

Terminal Connection



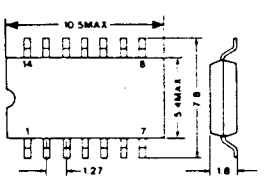
Truth Table

INPUTS			OUTPUTS		NOTE
$\overline{A}$	B	$\overline{CL}$	Q	$\overline{Q}$	
↓	H	H	⊓	⊔	OUTPUT ENABLE
■	L	H	L	H	INHIBIT
H	■	H	L	H	INHIBIT
L	↑	H	⊓	⊔	OUTPUT ENABLE
L	H	↑	⊓	⊔	OUTPUT ENABLE
■	■	L	L	H	INHIBIT

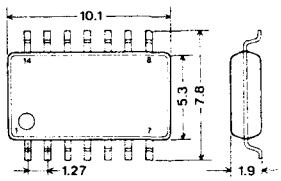
■ : DON'T CARE

■TC74HC05AF 051-1387-05 M74HC05FP 051-1387-95 HEX INVERTER

Outward Form

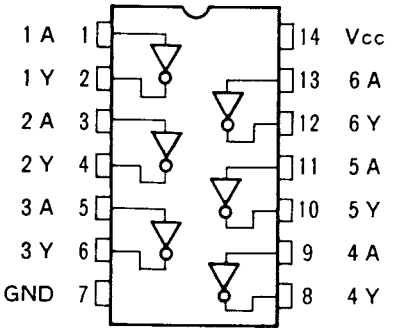


TC74HC05AF



M74HC05FP

Block Diagram



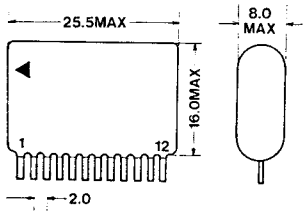
Truth Table

A	Y
L	Z
H	L

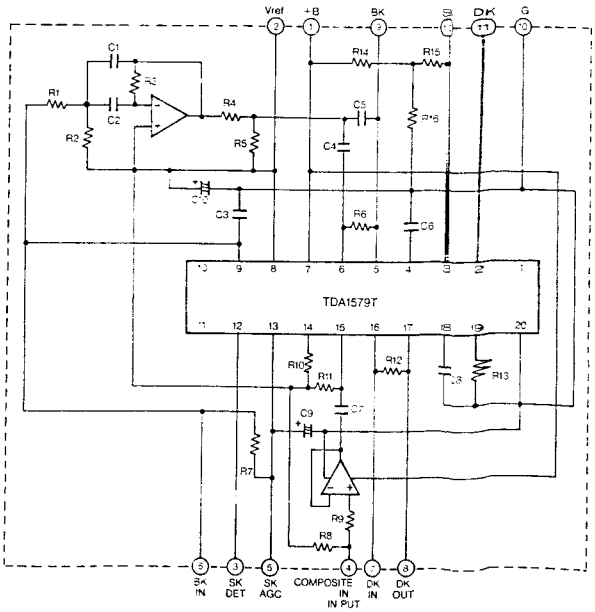
Z : High impedance

■SDK247 051-1552-00 Traffic Warning (VWF) Decoder

Outward Form

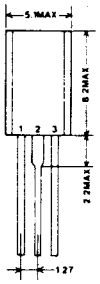


Block Diagram

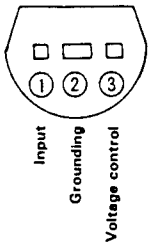


■M5237L 051-0768-01 General purpose variable 3-terminal constant voltage source (for dedicated use of drive)

Outward Form



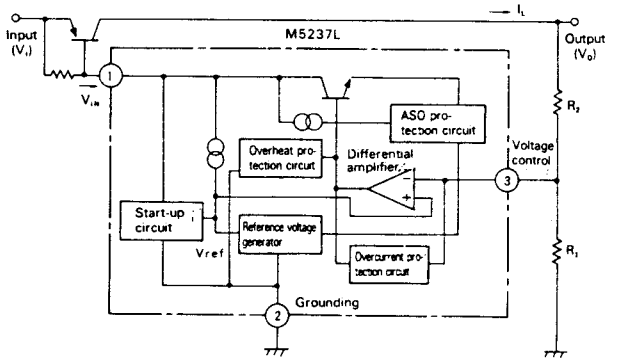
Terminal Connection



Features

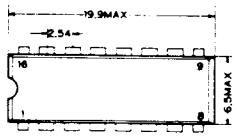
This IC is a general purpose constant voltage source for dedicated use of drive.
The IC contains the reference voltage genarator, differential comparison amplifier, driver, etc. When combined with an external PNP transistor and resistors, the IC forms a constant voltage 3-terminal power circuit which allows free setting of output voltage.
Range of supply voltage: Vin=3.5 to 36V
Range of output voltage: Vo=1.5 to 35V

Block Diagram



■TC9216P 051-1373-00 High-speed PLL Incorporating Prescalers

Outward Form



Outline

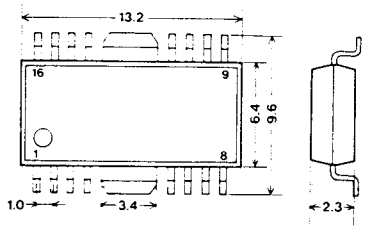
This IC is a high-speed PLL incorporating two modulus prescalers.
Each function is controlled through three serial bus lines, providing the digital tuning system.

Terminal Connection

Pin No.	Symbol	Terminal Name	Function
1	XT	Crystal oscillator	Connection terminal for crystal oscillator.
2	$\overline{XT}$		
3	DATA	"SERIAL DATA" I/O	Serial I/O port The IC has pins to set the number of frequency division and frequency division method and to send and receive data for controlling the counter and I/O ports between the controllers.
4	CLOCK	"CLOCK" signal input	
5	PERIOD	"PERIOD" signal input	
6	OT-1	Output port	The pin is of C-MOS structure and used to output the control signal, etc. At power on, it is set to "L".
7	OT-2		
8	OT-3		
9	I/O-5	Input/Output port	The pin is of C-MOS structure and can freely be used for input or output. At power on, it serves as an input port.
10	I/O-6/LFC_{IN}	I/O port, Input of counter frequency measuring	I/O port input/output terminal Depending on programs, this pin can also be used as an input one for measuring the frequency of the counter.
11	AM_{IN}	Programmable counter input	It inputs the local oscillator signals of AM and FM bands.
12	FM_{IN}		
14	DO1	Phase comparator output (Output port)	It outputs the tri-state of the phase comparator. DO1 and DO2 are parallel outputs. Depending on programs, DO2 can also be used as an output port.
15	DO2/OT-4		
13	GND	Ground	Ground terminal of the device
16	VDD	Power supply	5.0V ± 10%

■TA7291F 051-1014-05 Full Bridge Driver for D.C Motor

Outward Form



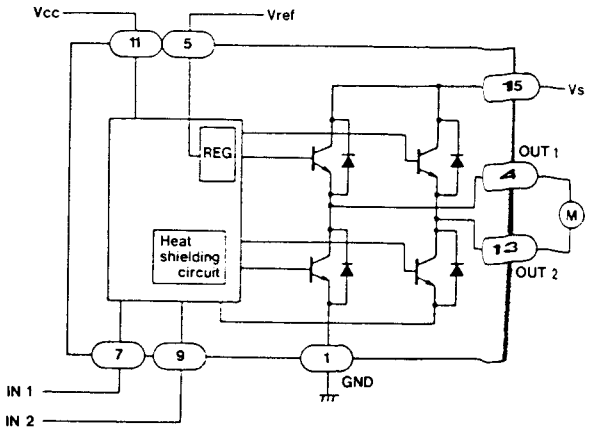
Outline

This IC can control 4 modes, that is, forward turn, reverse turn, stop and brake by the most suitable bridge driver for the conversion of the forward and reverse turns.
Output current 0.4A (average) and 1.2A (peak) can be obtained. Especially, it has the most suitable circuit composition for front loading, tape loading capstan reel of VTR. It is provided with a Vref terminal to control the motor voltage on the output side, and 2-system electric power supply terminal on output side and control side. Thus, it is possible to adjust the applied voltage to the motor. And also, it is possible to directly connect with C²MOS.

Features

- Operating power supply voltage range
  - Power supply voltage on logic side: Vcc (opr)=4.5~20V
  - Power supply voltage on output side: Vs (opr)=0~20V
  - Control power supply voltage: Vref (opr)=0~20V
  - Vcc, Vs and Vref do not make any erroneous operation under any large/small conditions
- Output current: 0.4A (AVE.) 1.2A (PEAK)
- Built-in with heat shielding circuit and output terminal protector circuit
- Built-in with diode for absorbing the reverse electro-motive force.
- Built-in with input hysteresis circuit
- Built-in with standby circuit

Block Diagram



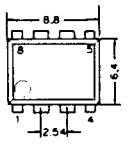
Pin 2, 3, 6, 8, 10, 12, 14, 16 : Not in use.

INPUT		OUTPUT		MODE
IN1	IN2	OUT1	OUT2	
0	0	∞	∞	Stop
1	0	H	L	CW/CCW
0	1	L	H	CCW/CW
1	1	L	L	Brake

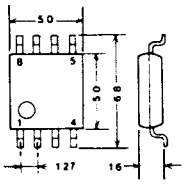
∞ : High impedance
Note : Input is "H" active

■NJM4565D 051-1292-10 ■NJM4565M-D 051-1292-00 Dual OP. Amp.

Outward Form

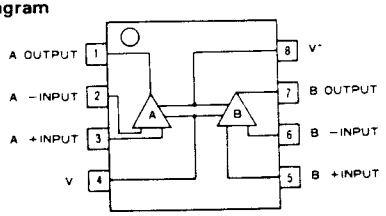


NJM4565D



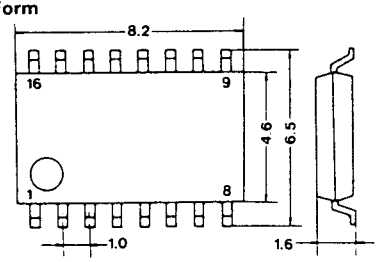
NJM4565M-D

Block Diagram



■TA2009F 051-1497-00 Σ-Δ Modulation Type DA Converter Filter

Outward Form



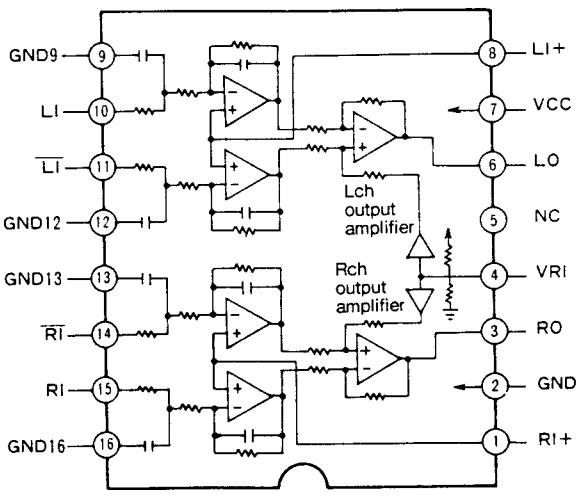
General Description

This IC works as an analog filter for the modulation type DA converter.
When used in combination with TC9237F/N (Σ-Δ modulation type DA converter with a built-in digital filter), the IC forms a DA converter system with minimum external components.

Features

- Built-in CR and output (differential) amplifiers for LPF with two channels on right and left.
- Single power source.
- Noise distortion ratio : −93dB (standard) } (when operated with a +5V single
- S/N : 100dB (standard) } power supply)

Block Diagram

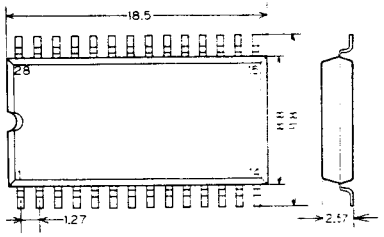


Terminal Description

Pin No.	Symbol	I/O	Function
1	RI+	I	Forward input terminal for Rch operation amplifier. (connected to VR1)
2	GND	–	Ground terminal.
3	RO	O	Rch analog output terminal.
4	VRI	–	Reference voltage terminal. (Vcc/2)
5	NC	–	Non-connected terminal.
6	LO	O	Lch analog output terminal.
7	VCC	–	Supply voltage terminal.
8	LI+	I	Forward input terminal for Lch operation amplifier. (connected to VR1)
9	GND9	–	Filter ground terminal for Lch reverse input.
10	LI	I	Lch forward input terminal. (connected to LO of TC9237F/N)
11	LI	I	Lch reverse input terminal. (connected to LO of TC9237F/N)
12	GND12	–	Ground terminal for Lch forward input filter.
13	GND13	–	Ground terminal for Rch forward input filter.
14	RI	I	Rch reverse input terminal. (connected to RO of TC9237F/N)
15	RI	I	Rch forward input terminal. (connected to RO of TC9237F/N)
16	GND16	–	Grounding terminal for Rch reverse input filter.

■TC9237F 051-1481-05 Σ-Δ Modulation Type DA Converter Filter

Outward Form



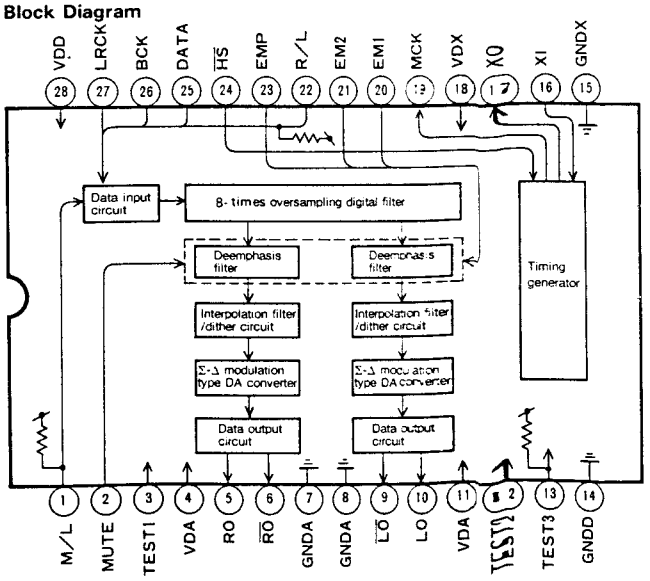
General Description

This IC is a Σ-Δ modulation type twin DA converter with the FIR digital filter of eight-times oversampling developed for use in digital audio systems.
Its deemphasis function enables the IC to form a digital filter to analog output.

Features

- Built-in FIR digital filter of eight- times oversampling
- Oversampling ratio (OSR) of DAC is 192 fs.
- Digital deemphasis function.
- DA converter provides output simultaneously through left and right channels.
- Compatible with CD player, DAT, BS tuner.
  fs=32k, 44.1k, 48kHz
- Compatible with multiple-speed operation.

Block Diagram



Terminal Description

Pin No.	Symbol	I/O	Function
1	M/L	I	MSB First/LSB First select terminal for input data. When turned to "H", the terminal is compatible with MSB First. When turned to "L", it is compatible with LSB First.
2	MUTE	I	Muting terminal. When turned to "H", muting is available.
3	TEST1	I	TEST terminal. Normally, the terminal is turned to "H".
4	VDA	–	Analog power supply terminal for DA converter. (for right channel)
5	RO	O	Forward output terminal for right channel data.
6	RO	O	Reverse output terminal for right channel data.
7	GNDA	–	Analog ground terminal for DA converter. (for right channel)
8	GNDA	–	Analog ground terminal for DA converter. (for left channel)
9	LO	O	Reverse output terminal for left-channel data.
10	LO	O	Forward output terminal for left-channel data.
11	VDA	–	Analog power supply terminal for DA converter. (for left channel)
12	TEST2	I	TEST terminal. Normally, the terminal is turned to "L".
13	TEST3	I	TEST terminal. Normally, the terminal is turned to "H" or open.
14	GND	–	Logic ground terminal.
15	GNDX	–	Oscillator ground terminal.
16 17	XI XO	I O	Crystal oscillator terminal. Crystal oscillator is connected to this terminal to generate required clocks (384 fs) to the system.
18	VDX	–	Oscillator power supply terminal.
19	MCK	O	System clock output terminal. (384 fs)
20	EM1	I	Deemphasis filter mode select terminal.
21	EM2	I	(see table below)

EM1	L	L	H	H
EM2	L	H	H	L
Mode (fs select)	44.1kHz		32kHz	48kHz

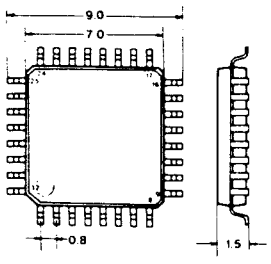
22	R/L	I	R/L channel data select terminal. A terminal used to select input of L/R channel data.

R/L input	LRCK	
	L	H
L	Right-channel data	Left-channel data
R	Left-channel data	Right-channel data

23	EMP	I	Deemphasis filter ON/OFF select terminal. When the terminal is turned to "H", the deemphasis filter is turned ON. When turned to "L", the deemphasis filter is turned OFF.
24	$\overline{HS}$	I	Standard/Multiple speed mode select terminal. "H" : Standard speed operation. "L" : Multiple-speed operation.
25	DATA	I	Data input terminal.
26	BCK	I	Bit clock input terminal.
27	LRCK	I	LR clock input terminal.
28	VDD	–	Logic power supply terminal.

■CXA1081Q 051-1237-10 RF Amp. for CD Player

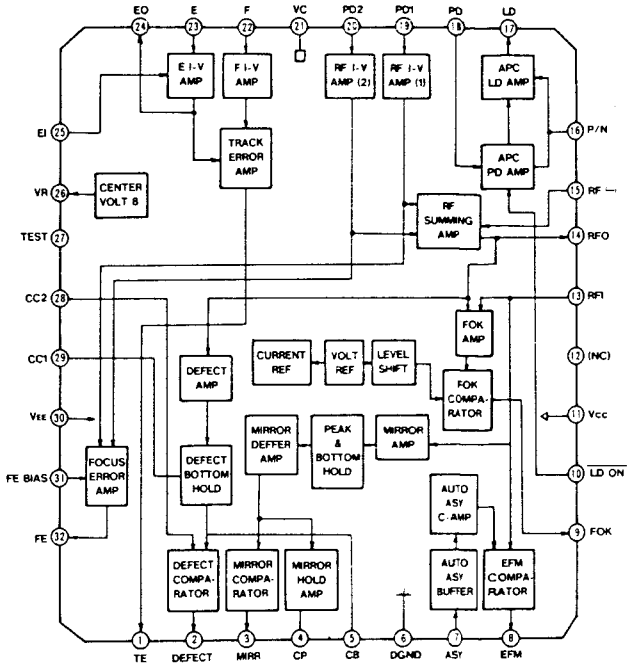
Outward Form



Function

- RF amp.
- Focus error amp.
- Tracking error amp.
- APC circuit
- Auto asymmetry control amp.
- Focus OK detector
- Mirror detector
- Defect detector
- EFM comparator

Block Diagram



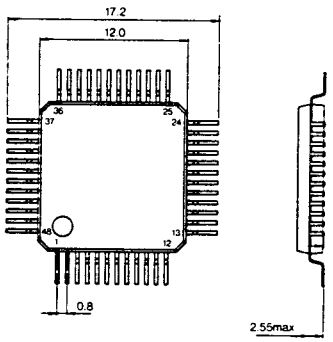
Terminal Description

Terminal No.	Terminal Name	I/O	Function
1	TE	O	Output of tracking error amp.
2	DEFECT	O	Output of DEFECT comparator.
3	MIRR	O	Output of MIRR comparator.
4	CP	I	A terminal used to connect the MIRR hold capacitor. A non-reverse input terminal for MIRR comparator.
5	CB	I	A terminal used to connect the DEFECT bottom hold capacitor.
6	DGND	–	When two + or – source voltage is used: GND When a single source voltage is used: GND (V_{EE})
7	ASY	I	Input of auto asymmetry control.
8	EFM	O	Output of EFM comparator.
9	FOK	O	Output of focus OK comparator.
10	LD ON	I	A terminal which turns the laser diode (LD) ON/OFF.
11	Vcc	–	Positive power terminal.
12	NC	–	Unused terminal.
13	RFI	I	A terminal through output of the RF summing amp. is inputted by capacity coupling.
14	RFO	O	Output of RF summing amp. and a point where Eye pattern is checked.
15	RF⊖	I	Feedback input of RF summing amp.
16	P/N	I	A terminal used to select P-sub or N-sub mode of laser diode (LD).
17	LD	O	Output of APC LD amp.
18	PD	I	Input of APC PD amp.
19	PD1	I	Reverse input of RF I-V amp. (1). Connected to Terminals A and C on the photodiode to receive current input.
20	PD2	I	Reverse input of RF I-V amp. (2). Connected to Terminals B and D on the photodiode to receive current input.
21	VC	–	When two + or – source voltage is used: GND When a single source voltage is used: VR (connected to 14-pin)
22	F	I	Reverse input of F I-V amp. Connected to Terminal F on the photodiode to receive current input.

Terminal No.	Terminal Name	I/O	Function
23	E	I	Reverse input of E I-V amp Connected to Terminal E on the photodiode to receive current input.
24	EO	O	Output of E I-V amp.
25	EI	I	Feedback input of E I-V amp. Used to control gain of E I-V amp.
26	VR	O	Output of two ($V_{CC}+V_{EE}$) direct current and voltage.
27	TEST	–	Open.
28	CC2	I	A terminal to receive DEFECT bottom hold output is inputted by capacity coupling.
29	CC1	O	Output of DEFECT bottom hold.
30	V_{EE}	–	When + or – power source is used: Negative power terminal. When a single power source is used: GND terminal.
31	FE BIAS	I	Bias terminal on non-reverse side of focus error amp. Used to control CMR of focus error amp.
32	FE	O	Output of focus error amp.

■CXA1082BQ 051-1238-00 Servo Signal Processor for CD

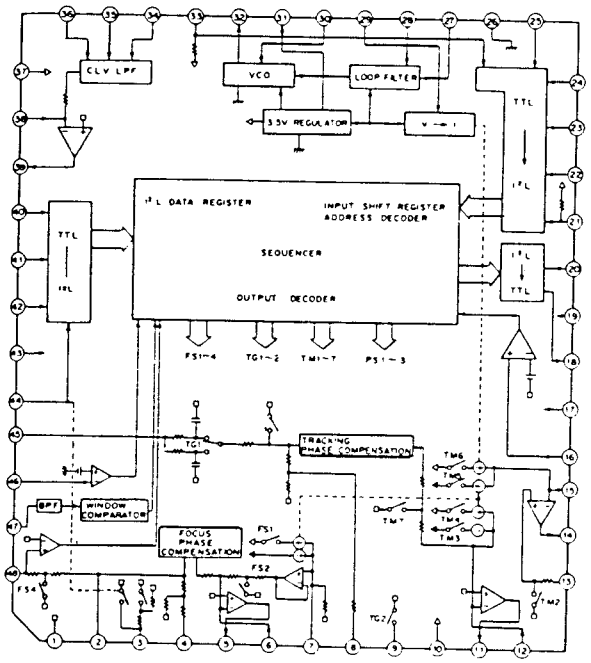
Outward Form



Functions

- Focus servo control
- Tracking servo control
- Sled servo control
- Spindle servo; LPF, Drive amplifier
- EFM clock playback PLL; Loop filter
  8.64MHz VCO
- Auto sequencer; RAM incorporated

Block Diagram

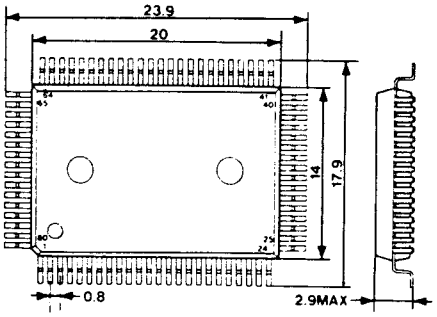


Description of Terminals

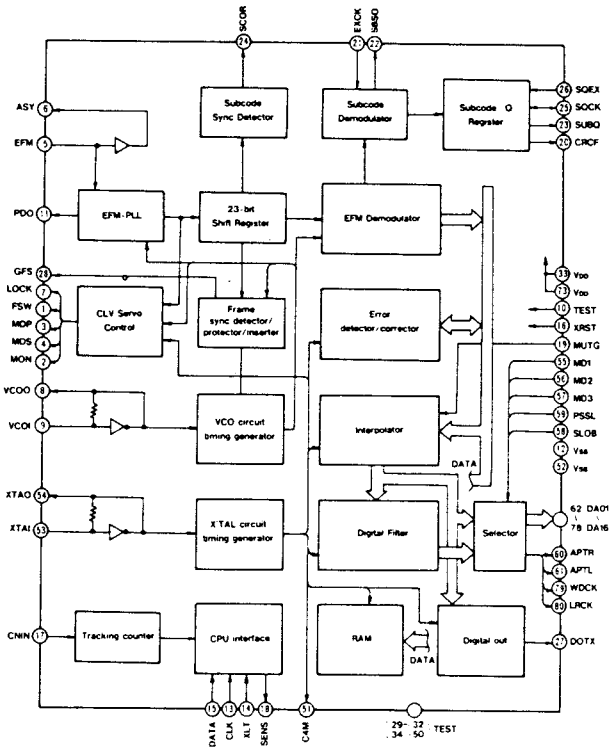
No.	Name	Function
2	FGD	Insert a capacitor between this terminal and the terminal No. 3 when dropping the high-pass gain of the focus serve
3	FS3	Switches the high-pass gain of the focus servo by turning FS3 on/off.
4	FLB	Time constant external terminal for lifting the low pass of the focus servo.
5	FEO	Focus drive output.
11	TAO	Tracking drive output.
14	SLO	Sled drive output.
39	SPDLO	Spindle drive output.
6	FE–	Focus amplifier inverse input.
7	SRCH	Time constant external terminal for creating a focus search wave-form.
8	TGU	Time constant external terminal for switching tracking high-pass gain.
9	TG2	Time constant external terminal for switching tracking high-pass gain.
12	TA–	Tracking amplifier inverse input.
13	SL+	Sled amplifier non-inverse input.
15	SL–	Sled amplifier inverse input.
16	SSTOP	Terminal for ON/OFF detection signal of the disk innermost track detecting limit switch.
17	FSET	Terminal for setting the phase compensation peak of focus tracking and fo of CLV LPF.
18	SENS	Outputs FZC, AZ, TZC, SSTOP, BUSY, etc. via a command from the CPU.
20	C.OUT	Tracks counting signal output.
21	DIRC	Used for jumping by 1 track.
22	XRST	Reset input terminal. Reset at "L".
23	DATA	Serial data input from the CPU.
24	XLT	Latch input from the CPU.
25	CLK	Serial data transfer clock input from the CPU.
33	LOCK	The sled crush preventive circuit works at "L".
27	BW	Time constant external terminal for the loop filter.
28	PDI	Inputs the phase comparator output PDO of the CX23035/CXD1135.
29	ISET	Flows a current to determine a focus search, track jump, and thread kick height.
30	VCOF	The self-propelling frequency of VCO is almost proportional to the resistance value between this terminal and the terminal No. 31.
32	C864	8.64MHz VCO output.
34	MDP	Connect the MDP terminal of the CX23035/CXD1135.
35	MON	Connect the MON terminal of the CX23035/CXD1135.
36	FSW	LPF time constant external terminal for a CLV servo error signal.
38	SPDL–	Spindle drive amplifier inverse input.
40	WDCK	Clock input for auto sequence. Normally, 88.2kHz is input.
41	FOK	FOK signal input.
42	MIRR	Mirror signal input.
44	DFCT	Defect signal input. The defect preventive circuit works at "H".
45	TE	Tracking error signal input.
46	TZC	Tracking zero cross comparator input.
47	ATSC	ATSC detecting window comparator input.
48	FE	Focus error signal input.

■CXD1167Q 051-1377-01 CD Digital Signal Processing

Outward Form



Block Diagram



Terminal Description

Terminal No.	Terminal Name	I/O	Function
1	FSW	O	Output terminal used to select time constant of output filter for spindle motor.
2	MON	O	Output terminal to control ON/OFF operation of spindle motor.
3	MDP	O	Drive output of spindle motor. A terminal used to make rough control in CLV-S mode and phase control in CLV-P mode.
4	MDS	O	Drive output of spindle motor. A terminal used to control speed in CLV-P mode.
5	EFM	I	A terminal used to receive EFM signal from RF amp.
6	ASY	O	Output terminal to control slice level of EFM signal.
7	LOCK	O	A terminal which samples GFS signal at WFCK/16. It sends "H" when sampling result is "H", and "L" when "L" is sampled 8 times continously.
8	VCOO	O	Output of VCO. When the terminal is locked to EFM signal, f=8.6436MHz. (17.2872MHz in double-speed playback mode)
9	VCOI	I	Input of VCO.
10	TEST	I	(0V)
11	PDO	O	Output of phase comparison between EFM signal and VCO/2.
12	V_{SS}	–	GND (0V)
13	CLK	I	A terminal which receives serial data transfer clock from CPU. The terminal latches data at the leading edge of the clock.
14	XLT	I	Latch input of data from CPU. The terminal latches data of 8-bit shift register (serial data sent from CPU) into registers.
15	DATA	I	Input of serial data sent from CPU.
16	XRST	I	Input of system reset. System is reset with "L".
17	CNIN	I	Input of tracking pulse.
18	SENS	O	A terminal which outputs internal data corresponding to the address.
19	MUTG	I	Input of muting. When ATTM of internal register A is "L", MUTG is in normal mode with "L". If it is turned "H", no sound is produced.
20	CRCF	O	A terminal which outputs results of CRC check on the sub-code "Q".
21	EXCK	I	Clock input for serial output of sub-code.
22	SBSO	O	Serial output of sub-code.
23	SUBQ	O	Output of sub-code "Q".
24	SCOR	O	Output of sub-code sink "S0+S1".
25	SQCK	I/O	Clock to read out sub-code "Q".
26	SQEX	I	Selective input of SQCK.
27	DOTX	O	Digital output (WFCK is outputted when DO is turned off).
28	GFS	O	Output locked frame sink.
29 ~ 32	TEST	I	Fixed to "H" or "L".
33	V_{DD}	–	Power source (+5V)
34 ~ 50	TEST	I	Fixed to "H" or "L"
51	C4M	O	Divided output of X'tal. f=4.2336MHz (8.4672MHz in double-speed playback mode).
52	V_{SS}	–	GND (0V)
53	XTAI	I	Input to X'tal oscillation circuit. f=8.4672MHz or 16.9344MHz depending on the selected mode (16.9344MHz in double-speed playback mode)
54	XTAO	O	Output from X'tal oscillation circuit. f=8.4672MHz or 16.9344MHz depending on the selected mode (16.9344MHz in double-speed playback mode).
55	MD1	I	Mode select input 1

Terminal No	Terminal Name	I/O	Function
56	MD2	I	Mode select input 2
57	MD3	I	Mode select input 3
58	SLOB	I	A terminal used to select code for output of audio data. When it is turned to "L", data is outputted in the 2's complement mode. When it is turned to "H", data is outputted in the offset binary mode.
59	PSSL	I	A terminal used to select mode for output of audio data. When it is turned to "L", serial data is outputted. When it is turned "H", parallel data is outputted.
60	APTR	O	A terminal used to control aperture correction. When R-ch is selected, the terminal is in the "H" mode.
61	APTL	O	A terminal used to control aperture correction. When L-ch is selected, the terminal is in the "H" mode.
62	DA01	O	Output of DA01 (LSB of parallel sound data) when PSSL="H". The terminal outputs C1F1 when PSSL="L".
63	DA02	O	Output of DA02 when PSSL="H" or C1F2 when PSSL="L".
64	DA03	O	Output of DA03 when PSSL="H" or C2F1 when PSSL="L".
65	DA04	O	Output of DA04 when PSSL="H" or C2F2 when PSSL="L".
66	DA05	O	Output of DA05 when PSSL="H" or C2FL when PSSL="L".
67	DA06	O	Output of DA06 when PSSL="H" or C2PO when PSSL="L".
68	DA07	O	Output of DA07 when PSSL="H" or RFCK when PSSL="L".
69	DA08	O	Output of DA08 when PSSL="H" or WFCK when PSSL="L".
70	DA09	O	Output of DA09 when PSSL="H" or PLCK when PSSL="L".
71	DA10	O	Output of DA10 when PSSL="H" or UGFS when PSSL="L".
72	DA11	O	Output of DA11 when PSSL="H" or GTOP when PSSL="L".
73	V_{DD}	–	Power source (+5V)
74	DA12	O	Output of DA12 when PSSL="H" or RAOV when PSSL="L".
75	DA13	O	Output of DA13 when PSSL="H" or C4LR when PSSL="L".
76	DA14	O	Output of DA14 when PSSL="H" or BCLK when PSSL="L".
77	DA15	O	Output of DA15 when PSSL="H" or BCLK when PSSL="L".
78	DA16	O	Output of DA16 (MSB of parallel voice data) when PSSL="H" or DATA when PSSL="L".
79	WDCK	O	Output of strobe signal. 176.4kHz when DF is turned ON (352.8kHz in double-speed playback mode) and 88.2kHz when DF is turned OFF (176.4 kHz in double-speed playback mode).
80	LRCK	O	Output of strobe signal. 88.2kHz when DF is turned ON (176.4kHz in double-speed playback mode) and 44.1kHz when DF is turned OFF (88.2kHz in double-speed playback mode).

Note)

C1F1, C1F2: Monitor output of error correction in C1 decode.

C2F1, C2F2: Monitor output of error correction in C2 decode.

C2FL: Output of error. Turned to "H" when correction of C2 line is disabled.

C2PO: Output of C2 pointer's indication which is synchronous with output of audio data.

RFCK: Output of read frame clock. 7.35kHz of X'tal line. (14.7kHz in double-speed playback mode)

WFCK: Output of write frame clock. 7.35kHz when locked to X'tal line. (14.7kHz in double-speed playback mode)

PLCK: Output of VCO/2. f=4.3218MHz when locked to EFM signal. (8.6436MHz in double-speed playback mode)

UGFS: Output of frame sink pattern when not protected.

GTOP: Indication of frame's synchronous protection.

RAOV: Indication of overflow and underflow of ±4 frame jitter absorbing RAM.

C4LR: Strobe signal. 352.8kHz when DF is turned ON (705.6kHz in double-speed playback mode), and 176.4kHz when DF is turned OFF (352.8kHz in double-speed playback mode).

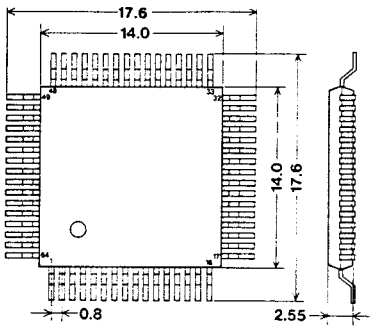
BLCK: Reverse output of bit clock.

BLCK: Output of bit clock. 4.2336MHz when DF is turned ON (8.4672MHz in double-speed playback mode), and 2.1168MHz when DF is turned OFF (4.2336MHz in double-speed playback mode).

DATA: Serial data output of audio signal.

■μPD78214GC-561-AB8 051-1529-00 CD mechanism controller

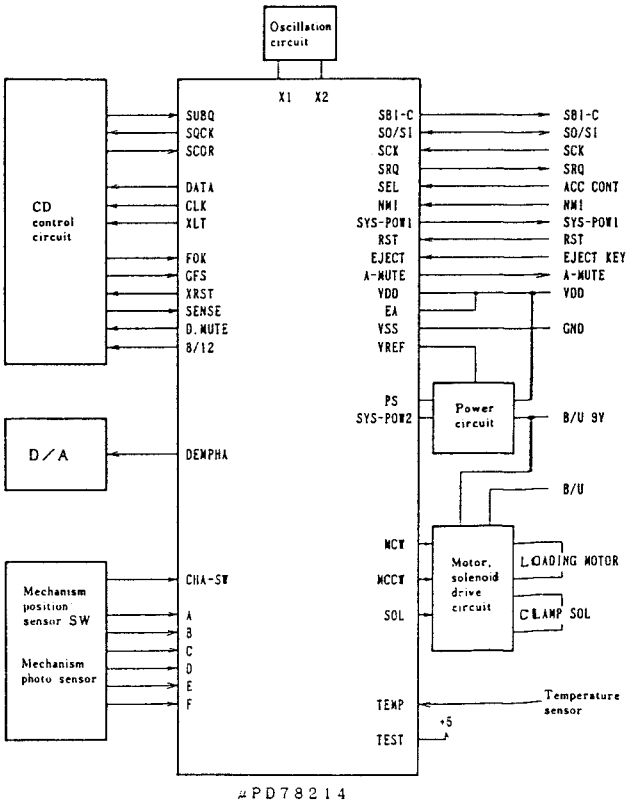
I. Outward Form



II. Outline

This IC is an 8-bit one chip microcomputer which controls the CD mechanism of 929-0041-00.

III. Block Diagram



IV. Terminal Description

Pin No.	Terminal Name	I/O	Active	Function
1	GFS	I	H	A terminal which indicates the frame sink of CXD1167 is locked. When the terminal is turned to "H", the frame sink works normally, while "L" indicates that the frame sink is NG.
2	XRST	O	L	An output terminal used to reset CXA1082 and CXD1167. When SYS-POW2 is turned ON, the terminal sends "L" level signal for 200 mS.

Pin No.	Terminal Name	I/O	Active	Function
3	8/12	O	H	8/12cm torque control output terminal. The terminal is used to select gain of spindle drive amplifier CXA1082. It sends "H" signal to play 12cm disc and "L" signal to play 8cm disc.
4	ROM	O	H	An output terminal which controls AUDIO/ROM modes to CXD1167. When CD-ROM OFF command is received from C-BUS, the terminal is put in the AUDIO mode to send "L" signal. With CD-ROM ON command, the terminal sends "H" signal. In the ROM mode, error of C1 and C2 is not corrected.
5	MUT	O	H	An output terminal which controls digital muting of CXD1167. When ATTM of internal register "A" of CXD1167 is "0", the terminal is turned to "L" to provide normal audio signal. When the terminal is turned to "H", audio signal is turned to -∞dB producing no sound. The terminal is turned to "L" level in PLAY, FF/FB and STOP modes and to "H" level in TRACK SEARCH and PAUSE modes.
6	RST	I	L	RESET input terminal.
7 8	X2 X1	O I		A terminal used to connect a ceramic resonator to oscillate system clock. 4 MHz.
9	Vss			Ground terminal.
10	DEMPH	O	H	An output terminal used to control deemphasis. When an emphasized disc is played, the terminal sends "H" signal.
11	SYS-POW2	O	H	An output terminal used to control SYSTEM POWER 2. In the CD PLAY mode, the terminal is turned to "H" to supply power to CXA1082 and CXD1167 of CD IC. In the STOP mode, the terminal is turned to "L" to turn the power of CD IC off after the spindle motor is turned off.
12	SYS-POW1	O	H	An output terminal used to control SYSTEM POWER 1. When 17-pin SEL is turned to "H" with ACC turned ON, the terminal is turned to "H" to supply power to the power motor, LED and SYS-POW2 switching circuit. When SEL is turned to "L" with ACC turned OFF, the terminal is turned to "L" to turn the power off.
13 14 15	N,C			Not in use.
16	EJECT	I	L	An input terminal used to receive EJECT KEY signal. With the terminal turned to "L", a disc may be ejected independently from C-BUS. The terminal is normally turned to "H".

Pin No.	Terminal Name	I/O	Active	Function
17	SEL	I		An input terminal used to receive ACC CONT signal from C-BUS. When ACC is turned ON, the terminal receives "H" signal. When "L" signal is received with ACC turned OFF, the disc is stopped with CD in PLAY, FF FB or SEARCH mode then the system is put in the STOP mode with clock turned off. In LOADING or EJECT mode, the terminal turns POWER1 and POWER2 off when operation completes or when error occurs, and the system is put in the STOP mode with clock turned off. When ACC is turned ON, the terminal receives "H" signal. When ACC is turned OFF, it receive "L" signal.
18	N,C			Not in use.
19	A-MUTE	O	L	A terminal used to control analog muting circuit. When the terminal sends "L" signal, muting is turned on.
20 〜 23	N,C			Not in use.
24	Vss			Ground terminal
25 26	N,C			Not in use.
27	ASTB	O		A terminal which latches external memory address. The terminal is not used.
28	NMI	I		A terminal which sends non-maskable interrupt request. The terminal is used to reset the STOP mode for clock stoppage. When signal received from the terminal is changed from "L" to "H", the oscillator starts oscillation. When NMI receives "L" level signal, an internal oscillation stabilizing counter starts to put the system in the OPERATION mode 32.8 seconds after oscillation started. The terminal is normally fixed to "L" level.
29	SCOR	I		A terminal which receives signal from the sub-code sink SO/SI output terminal of CXD1167. In the PLAY mode, "H" signal is received every 13.3 seconds to read SUB-Q data.
30 〜 34	N,C			Not in use.
35	CHA-SW	I		An input terminal which receives signal from the CHUCKING switch. The terminal detects completion of disc chucking. When the CHUCKING switch is turned ON with a disc loaded, the terminal receives "L" signal.

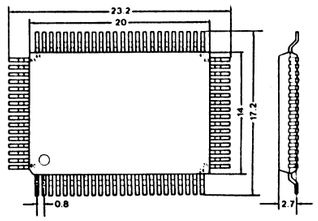
CXC6300

Pin No.	Terminal Name	I/O	Active	Function
36	SRQ			An output terminal which sends C-BUS service request signal. The signal requests to send status to the master computer due to change in the status of CD module. To send a status signal, the terminal turns to an output terminal to sends "L" level signal. Otherwise, the terminal works as an input terminal with high impedance. The terminal is normally turned to "H".
37	N,C			Not in use.
38	SCK	I		An input terminal which receives serial clock signal from C-BUS. The terminal is normally turned to "H" level.
39	SO/SI	I/O		C-BUS serial data bus terminal with combined SO and SI. To send data, the terminal is put in the Nch open drain mode. Otherwise, it is put in the input mode. The terminal is normally turned to "H".
40	EA	I		An input terminal which receives external memory access control signal. With the terminal turned to "H", internal ROM is accessed. The terminal is fixed to "H".
41	VDD			Power supply terminal. +5 V ± 10%
42	AVSS			A/D converter ground.
43	VREF			A/D converter reference voltage: +5 V
44 45 46 47 48 49	F E D C B A	I		An input terminal which receives signal from the photo sensor to check loading, chucking and other conditions of the disc. When a disc is not mounted, Terminals A to F receive "L" signal.
50	N,C			Not in use.
51	SBI-C	O		A terminal used to select buffer input to SO or SI. The terminal is used to provide an external bus buffer. Output → "H" Input → "L" Except when data is sent, the terminal is turned to "L" to put an external bus buffer in the INPUT mode.
52	SUBQ	I		An input terminal which receives signal from SUB-Q DATA of CXD1167.
53	SENSE	I		A terminal which receives output of FZC, AS, TZC, SSTOP and BUSY signals from CXA1082 and CXD1167 to control CD.
54	PS	O	H	A terminal which controls AV REF power supply. The terminal is turned to "L" in the CPU mode and to "H" in the STOP mode with clock turned off.

Pin No.	Terminal Name	I/O	Active	Function
55 56	MCW MCCW	O O		A terminal which controls the loading motor. Loading of disc and EJECT operations are made. Loading: MCW H, MCCW L EJECT: MCW L, MCCW H Brake: MCW H, MCCW H Stop: MCW L, MCCW L
57	SOL	O		A terminal which controls solenoid valves. When the photo sensor is ready to chuck with loading started by the disc, the terminal sends "H" level signal for 300 msec.
58	SQCK	O		An output terminal which sends clock ready by SUB-Q of CD IC.
59	DATA	O		An output terminal which sends serial data to control CD servo IC CXA1082 and signal processing IC CXD1167.
60	XLT	O		A latch output terminal.
61	CLK	O		An output terminal which sends serial data transfer clock.
62	TEMP	I	L	When voltage received by the terminal drops below 2.5 V, the system judges temperature is too high. When the voltage is higher than 2.7 V, NG is reset to put the system in the OPERATION mode.
63	TEST	I		An input terminal which receives signal from keys used in the TEST mode. In other modes, the terminal is fixed to "H".
64	FOK	I	H	An output terminal which receives signal from the focusing OK comparator of CXA1082. "H" level of the terminal represents FOCUS OK, while its lower level indicates FOCUS NG.

■μPD75308GF-115-3B9 051-1532-01 CD Deck System Controller

I. Outward Form



II. Terminal Description

Pin No.	Terminal Name	Function
69 \ 80, 1 \ 16	S0 \ S11, S12 \ S27	Segment signal output terminal.
17 \ 20	KO0 \ KO3	Key signal output terminal.
21, 22	COM0, COM1	Common signal output terminal to LCD.
23, 24	COM2, COM3	Open (Not used)
25, 26, 27, 28	BIAS, VLC0, VLC1, VLC2	LCD drive power supply input terminal.
29	$\overline{\text{5V REMOTE}}$	5V REMOTE signal output terminal. (active "L")
30	+B REMOTE	+B REMOTE signal output terminal. (active "H")
31	AMP REMOTE	AMP REMOTE signal output terminal. (active "H")
32	$\overline{\text{DISC/CATS LED}}$	DISC IN indicator. (active "L")
33	GND	Ground terminal.
34	ILLUMI	Illumination select signal output terminal. ("L"→AMBER "H"→GREEN)
35	$\overline{\text{MUTE}}$	System MUTE signal output terminal. (active "L")
36, 37		Open (not used)
38	ACC IN	ACC ON/POWER ON detection terminal. (active "H")
39, 40, 41	SBI/SCK, SBI/SO, SBI/SI	A terminal for scrial clock SCK output and serial data bus SO/SI input/output of scrial bus line interface system.
42	DK IN	DK discriminating signal input terminal. (active "H")
43	B/U DET	When this terminal is "L" the microcomputer goes into the BACK UP mode.
44	EJECT	When "H" is entered to this terminal with the EJECT key, a CD disc, if any, is ejected.
45	$\overline{\text{SRQ}}$	SERVICE REQUEST signal input terminal. (active "L")
46	———	
47	ACC CONT	ACC CONT signal output terminal. (active "H") When ACC IN terminal is turned to "H" with ACC or POWER is turned on, this terminal is turned to "H" to inform a slave micro-computer is turned ON.
48	VOL CE	A terminal used to send CE signal to electronic VOL IC. (active "H")
49	Period	A terminal used to send Period signal for data transfer to PLL IC. (active "H")
50	CLK	A terminal used to send CLK signal used commonly electronic VOL IC and PLL IC. (active "H")
51	DI/DO	A terminal used to received and send data signal used commonly in electronic VOL IC and PLL IC. (active "H")
52	———	
53	$\overline{\text{ST/TWEET}}$	A terminal used to detect ST signal in FM band mode. (active "L") IN the AM band mode, the terminal is turned to "H" to send TWEET signal and is turned to "L" only when 900kHz/1,350kHz is received (to prevent IF beats).
54	VDD	A terminal used to supply power to the microcomputer.
55	$\overline{\text{SK IN}}$	SK signal input terminal. (active "L")
56	———	
57	NC	Not used.
58, 59	X1, X2	Oscillation crystal/ceramic connection terminal for main system clock (4.19MHz).
60	Phone INT	A terminal used to receive interrupt signal from telephone. (active "H")
61	SD IN	Station Detector input terminal. (active "H")
62 \ 67	KI0 \ KI5	Key signal input terminal.
68	$\overline{\text{RESET}}$	System reset input terminal. (active "L")

III. Key Matrix

§ 1. Key Matrix Table

OUT \ IN	KI5 (pin67)	KI4 (pin66)	KI3 (pin65)	KI2 (pin64)	KI1 (pin63)	KI0 (pin62)
KO0 (pin17)	AUDIO UP	CH1/RPT	CH2/SCN	CH3/TOP	SEARCH UP	VF ON-OFF
KO1 (pin18)	AUDIO MODE	CH4	CH5/RDM	PS/AS	SEARCH DOWN	3rd AREA
KO2 (pin19)	AUDIO DOWN	MUTE	LOUD	BAND	T-MODE	———
KO3 (pin20)	CD	TUNER	———	VF	DISPLAY	———

Momentary switch　　Diode switch

§ 2. Diode Switch (initial setting matrix of diode)

In the table shown below, "0" and "1" represents OPEN and SHORT in diode.

Sw. name	Function
VF ON-OFF	0 : VF function is used. 1 : VF function is not used.
3rd AREA	Set the destinations. 0 : EUROPE 1 : AUSTRALIA (3rd AREA)

■PARTS LIST:

◎Electrical section

ESCUTCHEON P.W.B

REF NO.	PART NO.	DESCRIPTION	QTY
D401	001-0459-01	LED GL9HD44	1
D402-405	001-0516-00 001-0517-00	DIODE MA111 1SS355	4
Q402, 403	103-1996-00	TRANSISTOR 2SD1996	2
Q401	125-2020-03 125-2004-03 125-2005-02	TRANSISTOR DTC124EK RN1403 UN2212	1

REF NO.	PART NO.	DESCRIPTION	QTY
R401	117-4711-10	CHIP-R 1/10W 470Ω	1
R402, 403	117-4721-10	CHIP-R 1/10W 4.7kΩ	2
C401	178-1032-05	CHIP-C 0.01μF	1

MAIN P.W.B

REF NO.	PART NO.	DESCRIPTION	QTY
D302, 601, 602	001-0188-01	DIODE 1S1885A	3
D102, 506	001-0423-24	DIODE MA4091	2
D504, 507, 508	001-0466-00 001-0499-00 001-0534-00	DIODE S5688B ERA15-01 1SR139-100	3
D101, 103, 104 201, 202, 502 503, 505, 509	001-0516-00 001-0517-00	DIODE MA111 1SS355	9
D301	001-0528-48 001-0574-48	DIODE MA8091-H DTZ9.1C	1
D501	001-0535-00	DIODE MA729	1
TH1	002-0206-01	THERMISTOR	1
L601, 602	009-0470-03	CHOKE	2
L101	010-2003-04	COIL	1
L103	010-2124-00	COIL 7TS	1
L501	010-2174-36	COIL 1mH	1
L102	010-2199-16	COIL 2.2μH	1
L104	010-2199-40	COIL 220μH	1
VR102	012-3808-00	VARIABLE-R 330Ω	1
VR101	012-3808-08	VARIABLE-R 33kΩ	1
R557	032-0108-00	FLAME-PROOF-R 1/2W 1.8Ω	1
C603	042-0176-00	TANTALUM-C 16V 10μF	1
C604	042-0200-00	TANTALUM-C 10V 47μF	1
C219, 220, 225 226	042-0397-00	CHIP-C 16V 1μFTAN	4
C227, 228	042-0397-02	CHIP-C 35V 0.33μFTAN	2
C223, 224 231-234, 229 230, 236-239 260, 261	042-0398-01	CHIP-C 10V 4.7μFTAN	14
C217, 218	042-0403-01	CHIP-C 16V 10μFTAN	2
C501	042-0406-02	CHIP-C 10V 33μFTAN	1
C316	042-0428-01	ELECTRO-C 16V 2200μF	1
C311, 601	042-0439-00	ELECTRO-C 10V 220μF	2
C126	042-0443-01	ELECTRO-C 6.3V 47μF	1
C201, 203-207 235, 262	042-0443-03	ELECTRO-C 50V 4.7μF	8
C125, 507, 509 512	042-0443-05	ELECTRO-C 16V 10μF	4
C506	042-0443-07	ELECTRO-C 10V 33μF	1
C508	042-0443-09	ELECTRO-C 50V 0.47μF	1
C513	042-0443-10	ELECTRO-C 50V 2.2μF	1
C118	042-0443-11	ELECTRO-C 50V 3.3μF	1
C113	043-0214-00	FILM-C 0.0033μF	1
C317	043-0251-00	FILM-C 0.1μF	1
IC203, 204 206	051-0556-01	IC NJM2058M	3
IC101	051-0599-51	IC NJM2903M	1
IC601	051-0768-01	IC M5237L	1
IC201, 202	051-0853-01	IC M5201FP	2
IC205	051-0866-05	IC LC7537AN	1
IC503	051-0869-05	IC MB3771PF(-G)	1
IC504	051-1139-06	IC TC74HC123AF	1
IC602	051-1188-01	IC TA78DL06AP	1
IC103	051-1373-00	IC TC9216P	1
IC505	051-1375-65	IC	1
IC502	051-1387-05 051-1387-95	IC TC74HC05AF M74HC05FP	1

REF NO.	PART NO.	DESCRIPTION	QTY
IC501	051-1532-01	IC μPD75308GF-115	1
IC102	051-1552-00	IC SDK247	1
SUP101	060-0122-10	SURGE PROTECTOR	1
X501	060-0266-00	CERA-RESONATOR 4.19MHz	1
X101	061-1066-00	CRYSTAL 7.2MHz	1
BAT501	088-0017-01	BATTERY	1
Q106, 502, 503	100-1162-00 101-0709-00	TRANSISTOR 2SA1162 2SB709	3
Q601	101-1143-50	TRANSISTOR 2SB1143	1
Q108, 109	101-1237-00	TRANSISTOR 2SB1237	2
Q508, 511	101-1237-50	TRANSISTOR 2SB1237QR	2
Q513, 514	101-1243-50	TRANSISTOR 2SB1243	2
Q509	102-1846-00	TRANSISTOR 2SC1846	1
Q101, 110, 111 501, 505, 507 510, 512, 515	102-2712-00 103-0601-00	TRANSISTOR 2SC2712 2SD601A	9
Q103, 104	102-2712-50 103-0601-50	TRANSISTOR 2SC2712Y, G, L 2SD601A-R, S	2
Q201-206	103-1306-00 103-1328-00	TRANSISTOR 2SD1306 2SD1328	6
Q301	103-1683-50	TRANSISTOR 2SD1683	1
Q302	108-0330-28 108-0367-28 108-0373-28	FET 2SK330 2SK367 2SK373	1
Q102, 105, 107 506	125-2004-03 125-2005-02 125-2020-03	TRANSISTOR RN1403 UN2212 DTC124EK	4
Q504	125-2004-06 125-2020-06	TRANSISTOR RN1406 DTC143ZK	1
R218	117-1011-10	CHIP-R 1/10W 100Ω	1
R115, 243, 244 246, 258, 259 526, 533, 545 558, 559, 560	117-1021-10	CHIP-R 1/10W 1kΩ	12
R104, 106 116-119 201-204, 207 208, 221-226 501-506 511, 512, 515 516, 518, 537 543, 546, 552 556, 561, 562	117-1031-10	CHIP-R 1/10W 10kΩ	36
R107, 109, 121 213, 245, 248 507, 508	117-1041-10	CHIP-R 1/10W 100kΩ	8
R231, 232 235-238, 510 513	117-1051-10	CHIP-R 1/10W 1MΩ	8
R247	117-1221-10	CHIP-R 1/10W 1.2kΩ	1
R229, 230, 302 303	117-1231-10	CHIP-R 1/10W 12kΩ	4
R249, 534, 539	117-1241-10	CHIP-R 1/10W 120kΩ	3
R227, 228, 241 242, 250-253 304, 305, 509 524, 525	117-1531-10	CHIP-R 1/10W 15kΩ	13
R209, 210	117-1831-10	CHIP-R 1/10W 18kΩ	2

REF NO.	PART NO.	DESCRIPTION	QTY
R535	117-2031-10	CHIP-R 1/10W 20kΩ	1
R301,603	117-2211-10	CHIP-R 1/10W 220Ω	2
R103,114 215-217,527	117-2221-10	CHIP-R 1/10W 2.2kΩ	6
R108,123,124 521,541,542 549,550,564	117-2231-10	CHIP-R 1/10W 22kΩ	9
R601	117-2431-10	CHIP-R 1/10W 24kΩ	1
R233,234	117-2721-10	CHIP-R 1/10W 2.7kΩ	2
R214	117-2731-10	CHIP-R 1/10W 27kΩ	1
R110,254 257	117-3311-10	CHIP-R 1/10W 330Ω	5
R522,523	117-3321-10	CHIP-R 1/10W 3.3kΩ	2
R102	117-3341-10	CHIP-R 1/10W 330kΩ	1
R122,517,532 544,602	117-3921-10	CHIP-R 1/10W 3.9kΩ	5
R306,307	117-4711-10	CHIP-R 1/10W 470Ω	2
R105,113,529 530,553,554 565	117-4721-10	CHIP-R 1/10W 4.7kΩ	7
R111,205,206 211,212,519 520,538	117-4731-10	CHIP-R 1/10W 47kΩ	8
R220	117-5621-10	CHIP-R 1/10W 5.6kΩ	1
R540	117-5631-10	CHIP-R 1/10W 56kΩ	1
R536	117-5641-10	CHIP-R 1/10W 560kΩ	1
R514	117-6811-10	CHIP-R 1/10W 680Ω	1
R120,531	117-6821-10	CHIP-R 1/10W 6.8kΩ	2
R101	117-6831-10	CHIP-R 1/10W 68kΩ	1
R219,239,240	117-8221-10	CHIP-R 1/10W 8.2kΩ	3
R547	118-1201-10	CHIP-R 1/2W 12Ω	1
R555	118-1221-10	CHIP-R 1/2W 1.2kΩ	1
R528	118-1521-10	CHIP-R 1/2W 1.5kΩ	1
R551	118-2221-10	CHIP-R 1/2W 2.2kΩ	1
R548	118-2711-10	CHIP-R 1/2W 270Ω	1
R112	118-3311-10	CHIP-R 1/2W 330Ω	1
R563	118-6811-10	CHIP-R 1/2W 680Ω	1

REF NO.	PART NO.	DESCRIPTION	QTY
C102	171-1033-06	CERAMIC-C 0.01μF	1
C105	171-2233-06	CERAMIC-C 0.022μF	1
C114,115	172-6831-11	POLYESTOR-C 0.068μF	2
C606,607,609	173-1031-10	POLYESTOR-C 0.01μF	3
C312-315	173-1541-10	POLYESTOR-C 0.15μF	4
C208,209	176-1011-00	CHIP-C 100PF	2
C121	176-1201-00	CHIP-C 12PF	1
C120	176-1501-00	CHIP-C 15PF	1
C210,211	176-2211-00	CHIP-C 220PF	2
C240,241	176-2701-00	CHIP-C 27PF	2
C602	178-1022-05	CHIP-C 1000PF	1
C101,104,110 117,119,122 123,124,127 207,502,503 510,511,605	178-1032-05	CHIP-C 0.01μF	15
C211,212	178-2222-05	CHIP-C 2200PF	2
C108	178-2232-05	CHIP-C 0.022μF	1
C221,222	178-3322-05	CHIP-C 3300PF	2
C504	178-3332-05	CHIP-C 0.033μF	1
C106,107,109	178-4732-05	CHIP-C 0.047μF	3
C307,308	178-5612-05	CHIP-C 560PF	2
C213-216	178-8232-05	CHIP-C 0.082μF	4
C514	179-1073-33	ELECTRO-C 16V 100μF	1
C116	179-2273-23	ELECTRO-C 10V 220μF	1
C302	182-1073-22	ELECTRO-C 10V 100μF	1
C608	182-1073-32	ELECTRO-C 16V 100μF	1
C305,306	182-2256-52	ELECTRO-C 35V 2.2μF NP	2
C303,304	182-4756-32	ELECTRO-C 16V 4.7μF NP	2
C301	182-4763-22	ELECTRO-C 10V 47μF	1
C103	183-1053-62	ELECTRO-C 50V 1μF	1
C111	183-1063-32	ELECTRO-C 16V 10μF	1
C111	183-1063-32	ELECTRO-C 16V 10μF	1
C112	183-1073-22	ELECTRO-C 10V 100μF	1
C517	183-2253-62	ELECTRO-C 50V 2.2μF	1
C309,310	183-2263-32	ELECTRO-C 16V 22μF	2

FLOAT P.W.B

REF NO.	PART NO.	DESCRIPTION	QTY
D1,2	001-0367-01	DIODE 1SS226	2
L1	010-2155-03	COIL 10 H	1
VR5	012-4997-53	VARIABLE-R 2.2k	1
VR1-4	012-4997-57	VARIABLE-R 22k	4
R49 53-56 59-61 63-66 68-71	032-0092-03	CHIP-R 15kΩ(±1%)	16
R50,52 57,58,62 67	032-0092-04	CHIP-R 30kΩ(±1%)	6
R24,26	032-0092-05	CHIP-R 100kΩ(±1%)	2
C21,30 33	042-0397-00	CHIP-C 16V1μFTAN	3
C19,22	042-0397-03	CHIP-C 25V0.47μFTAN	2
C1,44	042-0397-05	CHIP-C 6.3V3.3μFTAN	2
C37	042-0398-01	CHIP-C 10V4.7μFTAN	1
C64	042-0403-01	CHIP-C 16V10μFTAN	1
C3,5,25 47	042-0416-01	CHIP-C 6.3V10μFTAN	4
C27,60	042-0449-00	CHIP-C 4V22μFTAN	2
IC8,9	051-0556-01	IC NJM2058M	2
IC1	051-1237-10	IC CXA1081Q	1
IC2	051-1238-00	IC CXA1082BQ	1
IC3	051-1377-01	IC CXD1167Q	1
IC4	051-1481-08	IC TC9237F	1

REF NO.	PART NO.	DESCRIPTION	QTY
IC5	051-1497-00	IC TA2009F	1
X1	061-1087-58	CRYSTAL 16MHz	1
Q1,6,8 10,12,14 16,18,20	101-1188-50	TRANSISTOR 2SB1188	9
Q2,3	102-2712-00 103-0601-00	TRANSISTOR 2SC2712 2SD601	2
Q5,7,9 11,13,15 17,19	103-1766-50	TRANSISTOR 2SD1766	8
Q4	125-2004-02 125-2005-01	TRANSISTOR RN1402 UN2211	1
R3	117-1001-10	CHIP-R 1/10W 10Ω	1
R1	117-1011-10	CHIP-R 1/10W 100Ω	1
R2,6,15 20,48,74 76,77	117-1021-10	CHIP-R 1/10W 1kΩ	8
R4,9,10 12,13,16 25.34.37	117-1031-10	CHIP-R 1/10W 10kΩ	9
R17,23 33,39,40 41,42,51	117-1041-10	CHIP-R 1/10W 100kΩ	8
R21,35	117-1051-10	CHIP-R 1/10W 1MΩ	2
R7	117-1231-10	CHIP-R 1/10W 12kΩ	1
R29,30	117-1531-10	CHIP-R 1/10W 15kΩ	2
R22	117-2231-10	CHIP-R 1/10W 22kΩ	1

REF NO.	PART NO.	DESCRIPTION	QTY
R45	117-2241-10	CHIP-R 1/10W 220kΩ	1
R32,36 43	117-2741-10	CHIP-R 1/10W 270kΩ	3
R31	117-3321-10	CHIP-R 1/10W 3.3kΩ	1
R5,38	117-3331-10	CHIP-R 1/10W 33kΩ	2
R75	117-4711-10	CHIP-R 1/10W 470Ω	1
R28,47	117-4721-10	CHIP-R 1/10W 4.7kΩ	2
R27,46 72,73	117-4731-10	CHIP-R 1/10W 47kΩ	4
R44	117-4741-10	CHIP-R 1/10W 470kΩ	1
R11,14	117-5601-10	CHIP-R 1/10W 56Ω	2
R8	117-8221-10	CHIP-R 1/10W 8.2kΩ	1
C2,24	163-1073-10	CHIP-C 6.3V100μF	2
C58	163-4763-30	CHIP-C 16V47μF	1
C61	176-1201-00	CHIP-C 12PF	1
C6	176-1801-00	CHIP-C 18PF	1
C65	176-2096-00	CHIP-C 2PF	1
C15,16	176-2201-00	CHIP-C 22PF	2

REF NO.	PART NO.	DESCRIPTION	QTY
C40 49-56	176-4702-00	CHIP-C 47PF	9
C17,20 34,63	178-1022-05	CHIP-C 1000PF	4
C4,7,8 21,24,26 43,46,48 57	178-1032-05	CHIP-C 0.01μF	10
C11-14 23,35,36 38,41,45 59,62	178-1042-05	CHIP-C 0.1μF	12
C31	178-2222-05	CHIP-C 2200PF	1
C9,10,18 39	178-3332-05	CHIP-C 0.033μF	4
C28	178-4722-05	CHIP-C 4700PF	1
C32	178-4732-05	CHIP-C 0.047μF	1

MECHANISM P.W.B

REF NO.	PART NO.	DESCRIPTION	QTY
D401	001-0543-00	DIODE MA291	1
C402	042-0397-00	CHIP-C 16V1μFTAN	1
C401	042-0427-03	CHIP-C 25V15μFTAN	1
IC401	051-1014-05	IC TA7291F	1
Q402	101-1188-50	TRANSISTOR 2SB1188	1

REF NO.	PART NO.	DESCRIPTION	QTY
Q401	102-2712-07	TRANSISTOR 2SC2712	1
R402,403	116-2221-10	CHIP-R 1/8W 2.2kΩ	2
R405,406	116-5682-10	CHIP-R 1/8W 0.56Ω	2
R401,404	117-1031-10	CHIP-R 1/10W 10kΩ	2
C403	178-1032-05	CHIP-C 0.01μF	1

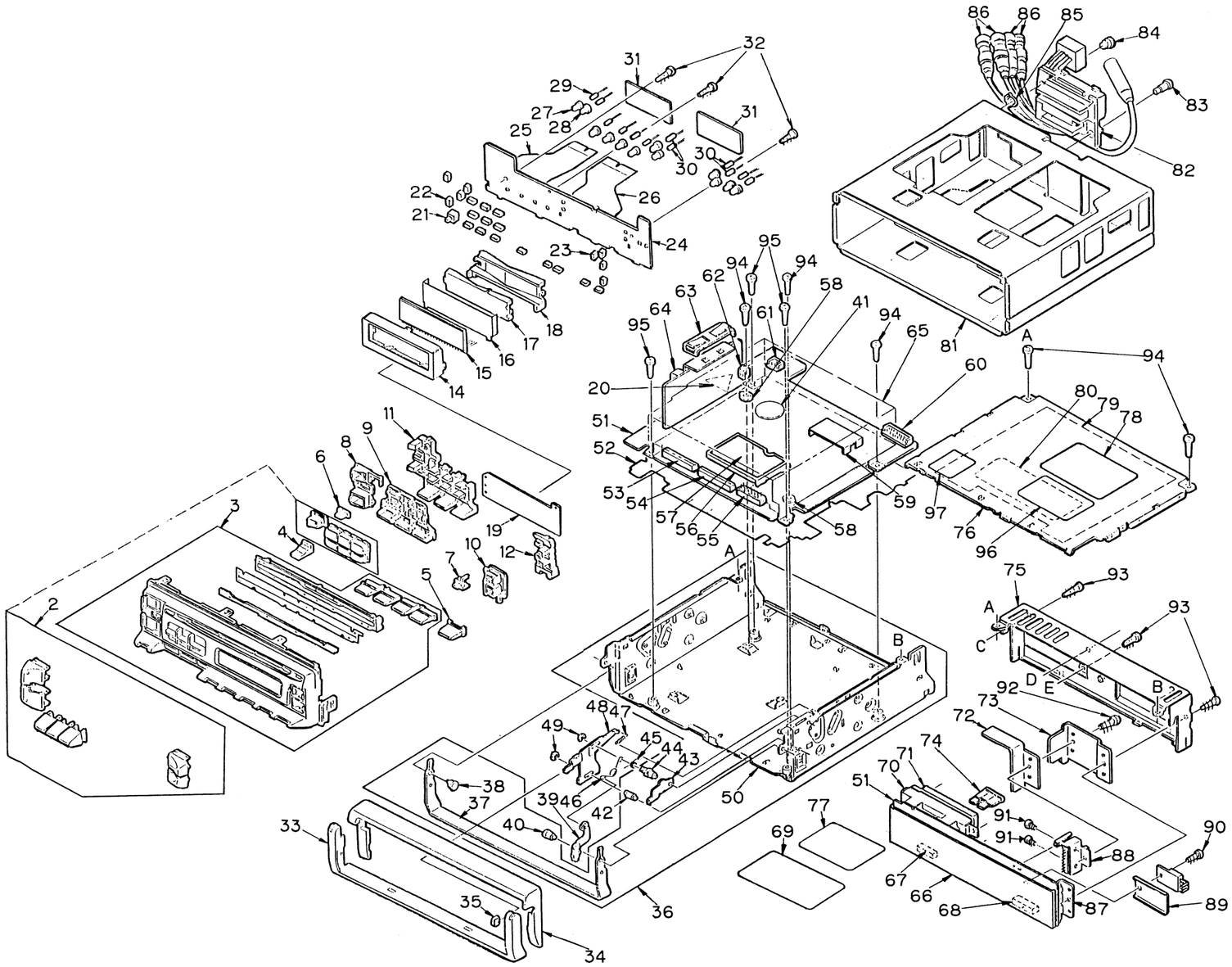
CDM2 P.W.B

REF NO.	PART NO.	DESCRIPTION	QTY
D207	001-0528-31 001-0574-31	DIODE MA8056L DTZ5.6A	1
D201-206	001-0558-01	LED (SIR-381SB3F)	6
TH201	002-0214-00	THERMISTOR 100k	1
R218	032-0092-07	CHIP-R 12kΩ(±1%)	1
IC201	051-1292-00	IC NJM4565M	1
IC202	051-1529-00	IC μPD78214GC -561-AB8	1
X201	060-0270-00	CERAMIC RESONATOR 4MHz	1
Q202	101-1188-50	TRANSISTOR 2SB1188	1
Q201	103-1754-64	TRANSISTOR 2SD1754	1
Q204	125-0002-02 125-0001-01	TRANSISTOR RN2402 UN2111	1
Q203	125-2004-02 125-2005-01	TRANSISTOR RN1402 UN2211	1
R205	116-1021-10	CHIP-R 1/8W 1kΩ	1
R224	116-3331-10	CHIP-R 1/8W 33kΩ	1
R201,202	116-5611-10	CHIP-R 1/8W 560Ω	2
R203	116-8211-10	CHIP-R 1/8W 820Ω	1
R234,235	117-1031-10	CHIP-R 1/10W 10kΩ	2
R206-211 213	117-1041-10	CHIP-R 1/10W 100kΩ	7
R229,233	117-1231-10	CHIP-R 1/10W 12kΩ	2

REF NO.	PART NO.	DESCRIPTION	QTY
R226,230	117-1531-10	CHIP-R 1/10W 15kΩ	2
R227,231	117-1831-10	CHIP-R 1/10W 18kΩ	2
R204	117-2231-10	CHIP-R 1/10W 22kΩ	1
R228,232	117-2731-10	CHIP-R 1/10W 27kΩ	2
R214-217 221-223 225,226	117-3331-10	CHIP-R 1/10W 33kΩ	9
R236,238	117-4711-10	CHIP-R 1/10W 470Ω	2
R219	117-4721-10	CHIP-R 1/10W 4.7kΩ	1
R212,237 239	117-4731-10	CHIP-R 1/10W 47kΩ	3
C207,211 218,219	163-1063-30	CHIP-C 16V10μF	4
C217	163-1073-10	CHIP-C 6.3V100μF	1
C201,204	163-2263-10	CHIP-C 6.3V22μF	2
C202,216	163-4763-30	CHIP-C 16V47μF	2
C209,213	176-1021-09	CHIP-C 1000PF	2
C210,214	176-1211-00	CHIP-C 120PF	2
C222,223	176-6801-00	CHIP-C 68PF	2
C208,212	176-6811-06	CHIP-C 680PF	2
C215	177-1042-05	CHIP-C 0.1μF	1
C203,205 206,221	178-2232-05	CHIP-C 0.022μF	4
C220	178-8222-05	CHIP-C 8200PF	1

■EXPLODED VIEW • PARTS LIST:

◎Main section



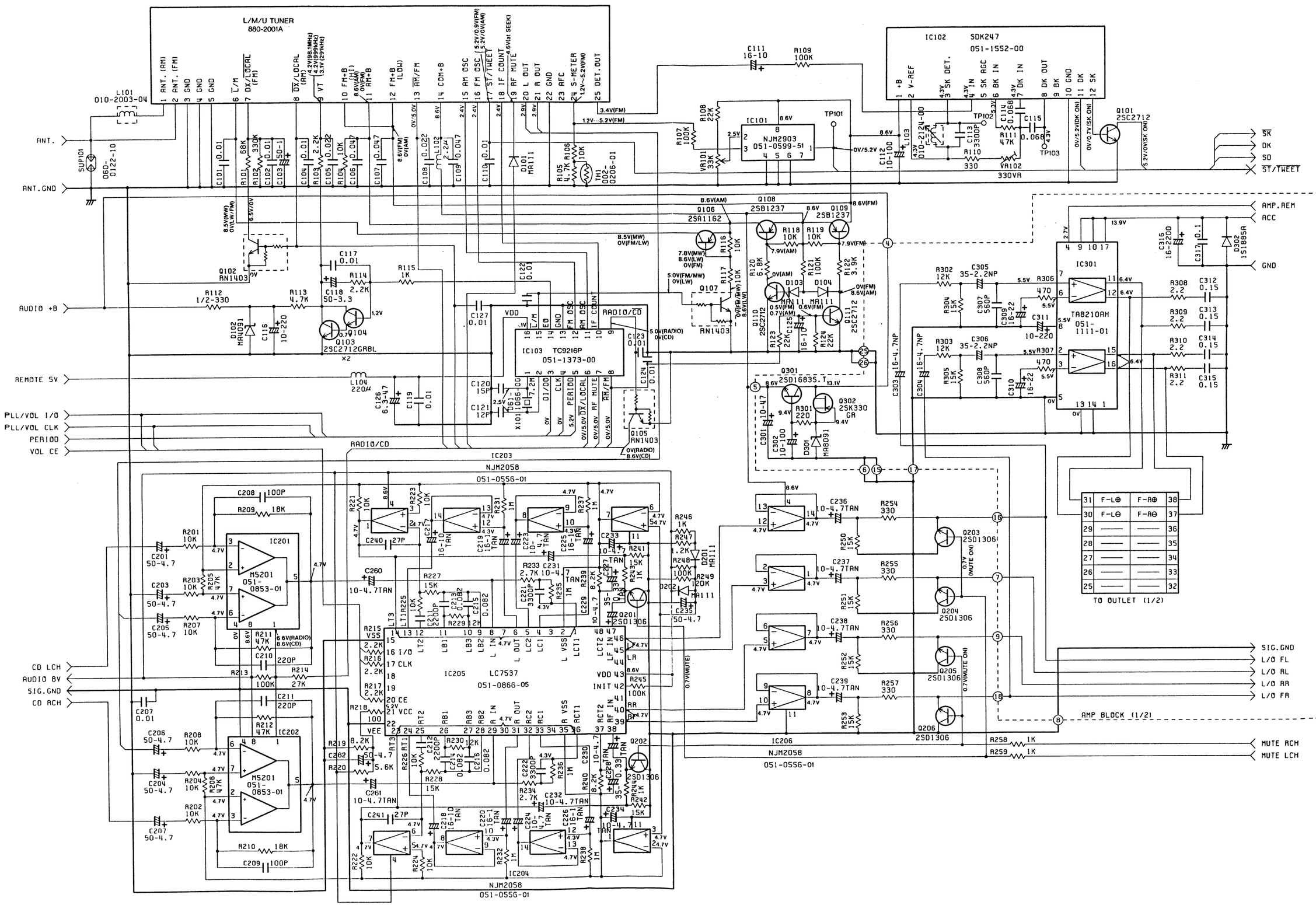
NO.	PART NO.	DESCRIPTION	QTY
2	947-0291-00	BUTTON ASSY	1
3	940-3193-00	ESCUTCHEON-ASSY	1
4	382-2592-00	BUTTON *POWER	1
5	382-2595-00	BUTTON *BAND	1
6	382-2593-00	BUTTON *EJECT	1
7	335-3677-00	ILLUMI PLATE *DISC IN	1
8	335-3680-00	BUTTON HOLDER *LEFT	1
9	335-3722-00	BUTTON HOLDER *MID	1
10	335-3681-00	BUTTON HOLDER *RIGHT	1
11	335-3721-00	ILLUMI PLATE *LEFT	1
12	335-3679-00	ILLUMI PLATE *RIGHT	1

NO.	PART NO.	DESCRIPTION	QTY
14	330-9752-00	SHIELD PLATE	1
15	379-0361-00	INDICATOR *LCD	1
16	347-3570-00	FILM	1
17	335-3676-00	ILLUMI PLATE	1
18	335-3675-02	LCD HOLDER	1
19	373-0659-00	DIAL COVER	1
20	285-1426-00	GUIDE LABEL *LASER	1
21	013-3849-00	SWITCH *PQWER	1
22	013-3741-11	SWITCH	21
23	001-0459-01	LED	1
24	099-9438-01	SWITCH PWB	1

NO.	PART NO.	DESCRIPTION	QTY
25	099-9441-00	FLEXIBLE PWB	1
26	099-9440-00	FLEXIBLE PWB *LCD	1
27	345-3814-55	LAMP CAP *AMBER	6
28	345-3814-61	LAMP CAP *GREEN	6
29	017-0345-09	PILOTLAMP *14V-40	8
30	017-0373-00	PILOTLAMP *8V-70	4
31	345-7180-00	CUSHION RUBBER	2
32	716-0778-00	WAVE SCREW	3
33	335-3745-00	HANDLE COVER	1
34	370-5308-00	ESCUTCHEON	1
35	382-2700-00	BUTTON	1

NO.	PART NO.	DESCRIPTION	QTY
36	946-0039-02	MTG-CASE-ASSY	1
37	330-9744-00	HANDLE	1
38	399-4196-00	GROMMET	1
39	330-9743-01	SLIDE PLATE	1
40	399-4195-00	GROMMET	1
41	088-0017-01	BATTERY	1
42	399-4194-01	JOINTER	1
43	330-9745-01	HOOK PLATE	1
44	399-4193-01	JOINTER	1
45	750-2987-00	SPRING	1
46	750-2986-01	SPRING	1
47	750-2988-00	SPRING	1
48	330-9746-01	LEVER	1
49	743-2500-10	E-RING	2
50	311-1516-02	LOWER CASE	1
51	099-9483-00	MAIN PWB	1
52	347-3487-00	SHIELD SHEET	1
53	074-0855-24	OUTLET SOCKET *24P	1
54	074-0855-28	OUTLET SOCKET *28P	1
55	076-0391-20	PLUG *20P	1
56	330-9775-00	SHIELD COVER	1
57	347-3489-00	SHIELD SHEET	1
58	073-0689-00	TERMINAL	2
59	330-9809-00	SHIELD COVER	1
60	076-0368-18	PLUG *18P	1
61	076-0368-08	PLUG *8P	1
62	076-0232-02	PLUG *2P	1
63	330-9789-00	EARTH PLATE	1
64	880-2001A	AM/FM TUNER BLOCK-ASSY	1
65	929-0041-00	CD-MECHANISM-MODULE	1
66	330-9748-00	ISOLATION PLATE	1
67	074-0898-08	OUTLET SOCKET *8P	1
68	074-0898-18	OUTLET SOCKET *18P	1
69	285-1519-00	GUIDE LABEL *CLASS1	1
70	330-9742-01	CONNECTOR SUPPORT	1
71	076-0421-01	PLUG *38P	1
72	313-1469-00	HEAT SINK	1
73	313-1470-00	HEAT SINK	1
74	060-0057-55	AUTO-FUSE *7.5A	1
75	307-0454-01	REAR COVER	1
76	303-0406-02	UPPER COVER	1
77	286-7675-00	SETPLATE	1
78	285-1468-00	GUIDE LABEL *CAUTION	1
79	347-3488-01	SHIELD SHEET	1
80	285-1340-00	GUIDE LABEL	1
81	300-7645-02	MOUNTING BRACKET	1
82	854-2487-01	EXTENSION LEAD	1
83	716-1454-01	CONNECTOR SCREW	1
84	716-1452-00	CONNECTOR SCREW	1
85	073-0701-01	TERMINAL	1
86	345-3799-00	CAP	4
87	330-9749-00	IC SUPPORT	1
88	330-9747-00	IC HOLDER	1
89	330-9810-00	IC HOLDER	1
90	714-2605-81	MACHINE SCREW	1
91	714-2610-81	MACHINE SCREW *POWER IC	2
92	714-2608-81	MACHINE SCREW	1
93	731-3008-80	TAPTIGHT	3
94	731-3006-80	TAPTIGHT	4
95	716-0878-00	IT-SCREW	4
96	285-1410-00	GUIDE LABEL *SERVICE	1
97	347-3275-00	SEAL	1

■CIRCUIT DIAGRAM: 1/3



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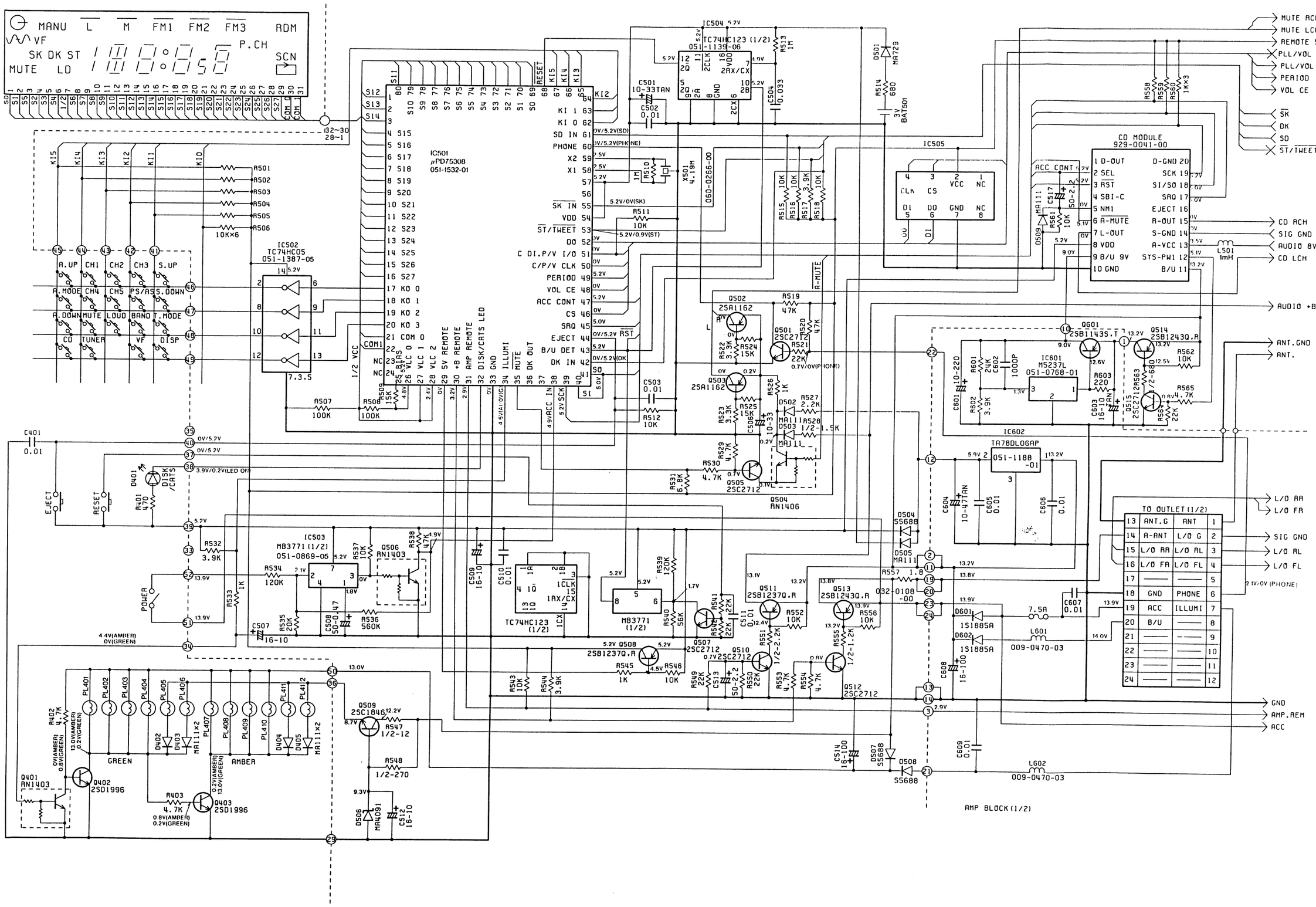
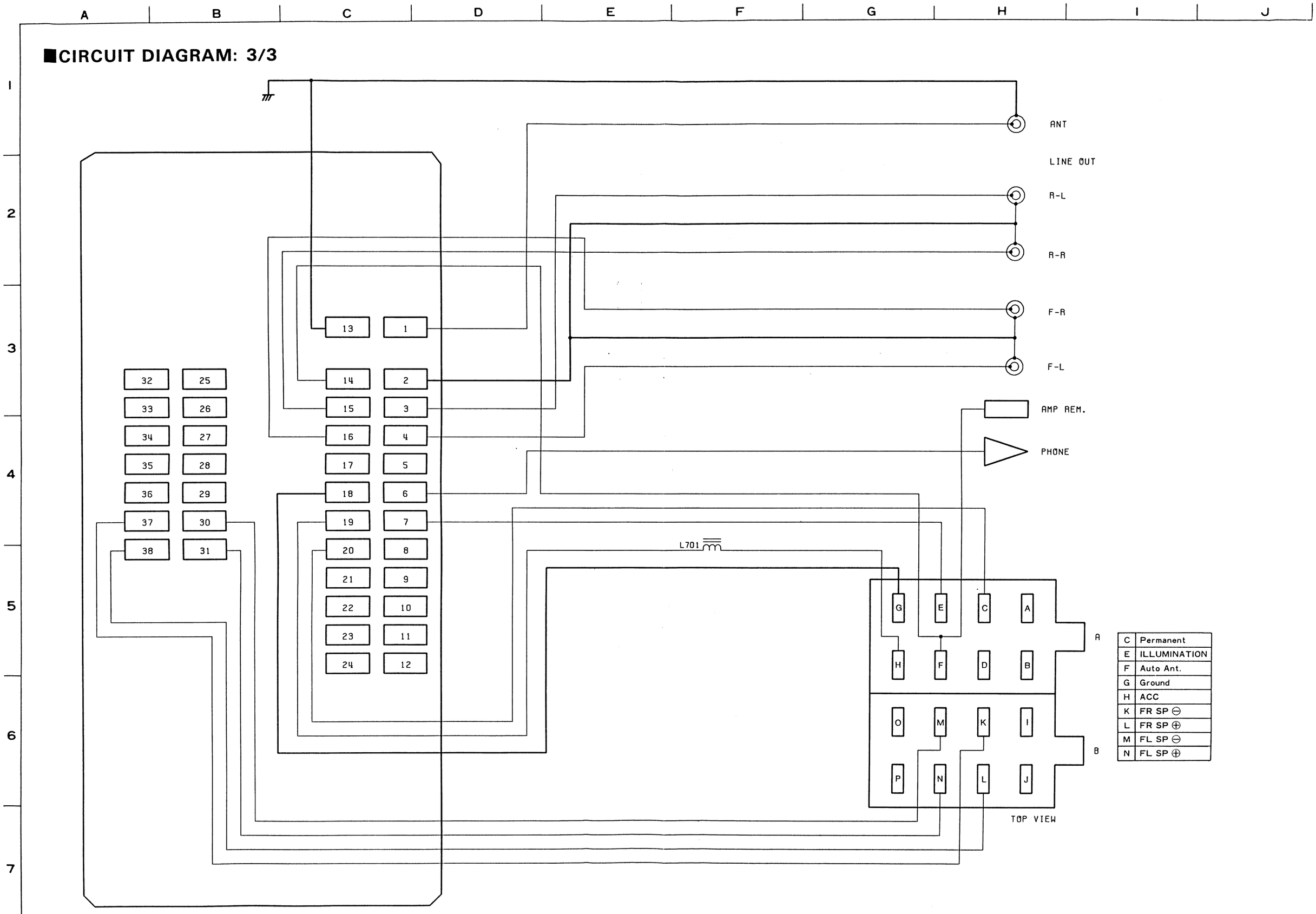
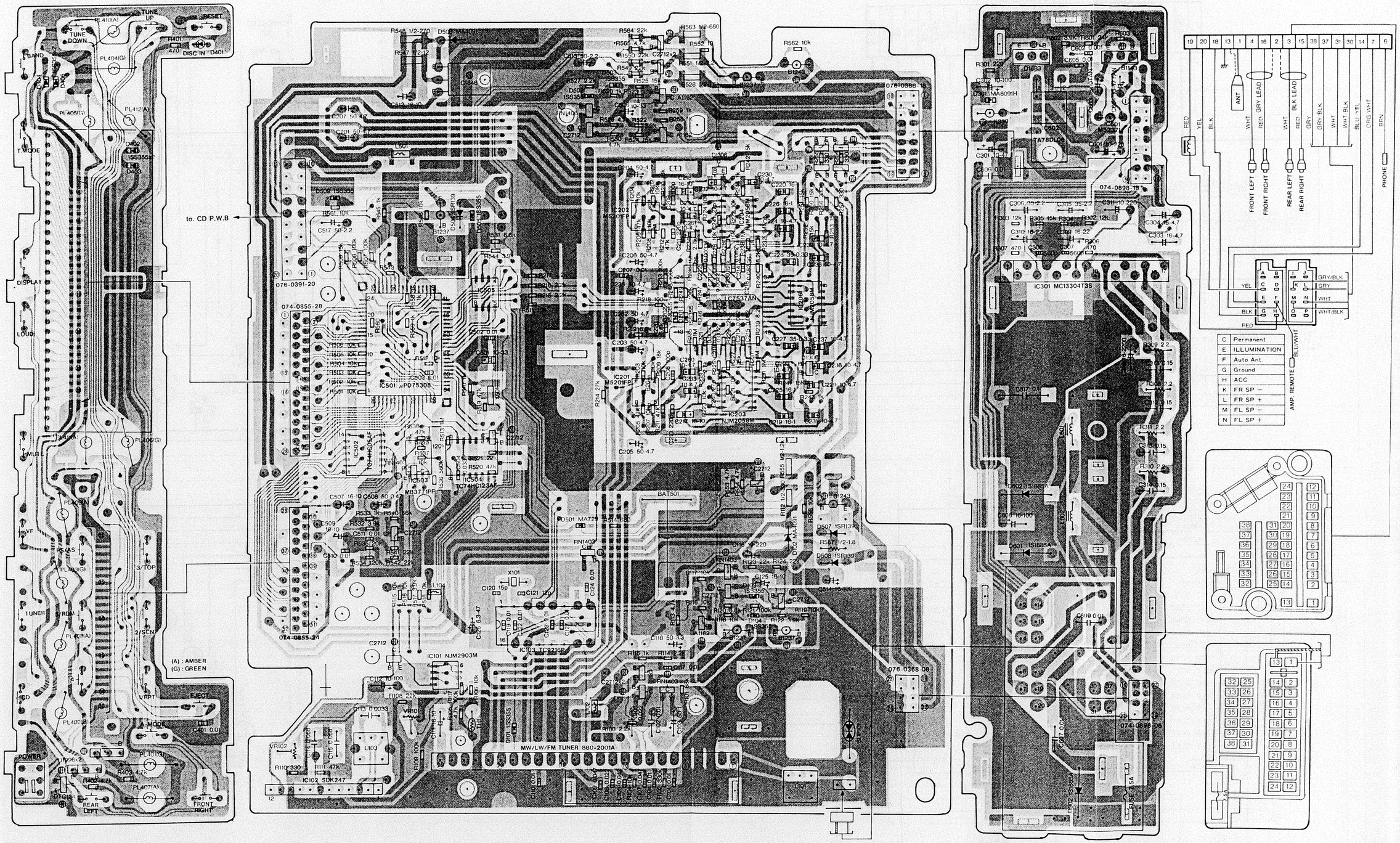


CDC6300

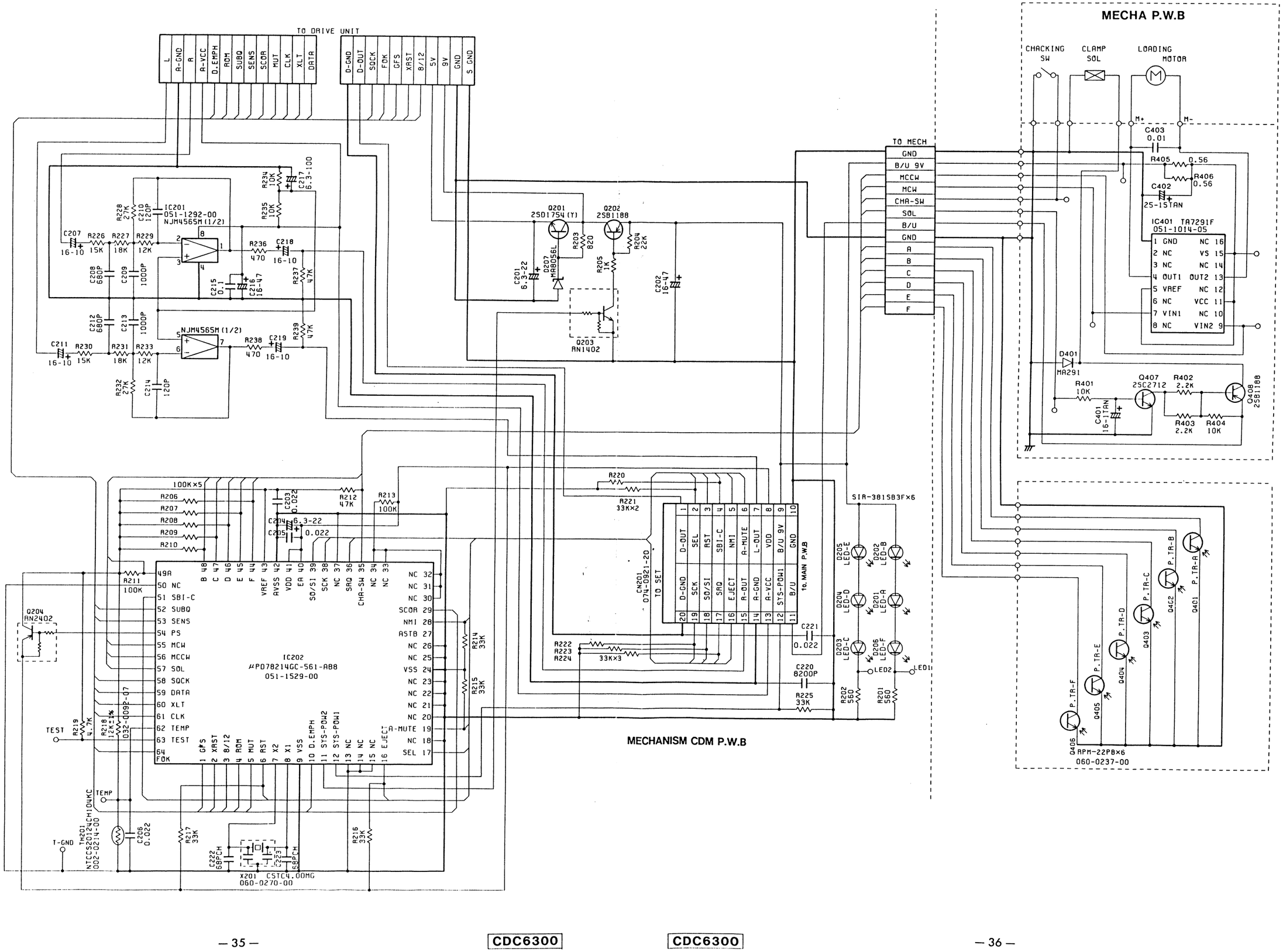
■CIRCUIT DIAGRAM: 3/3



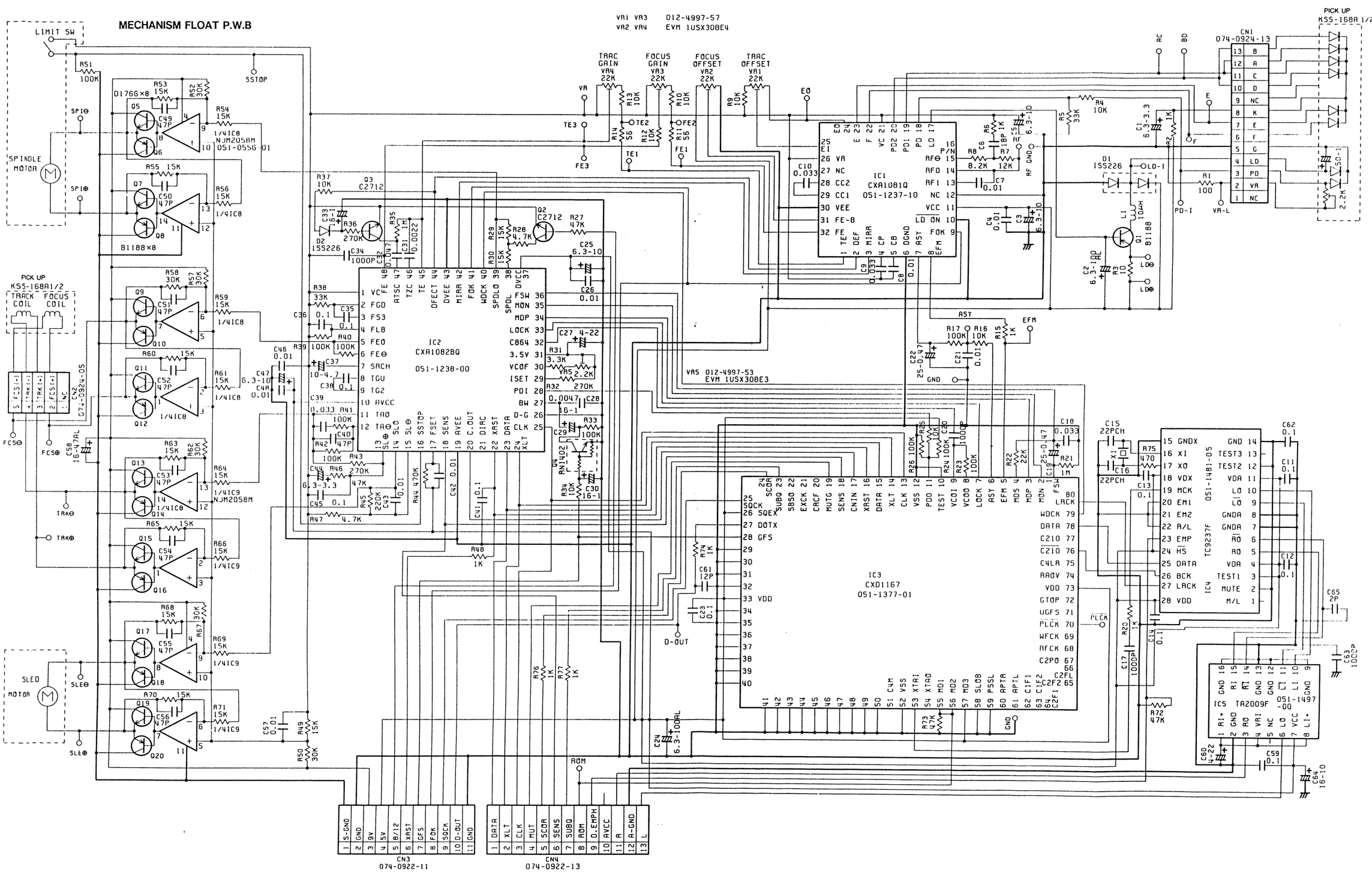
■PRINTED WIRING BOARD: 1/2



■CIRCUIT DIAGRAM: 1/2 ©CD MECHANISM section 929-0041-00



■CIRCUIT DIAGRAM: 2/2 ◎CD MECHANISM section 929-0041-00



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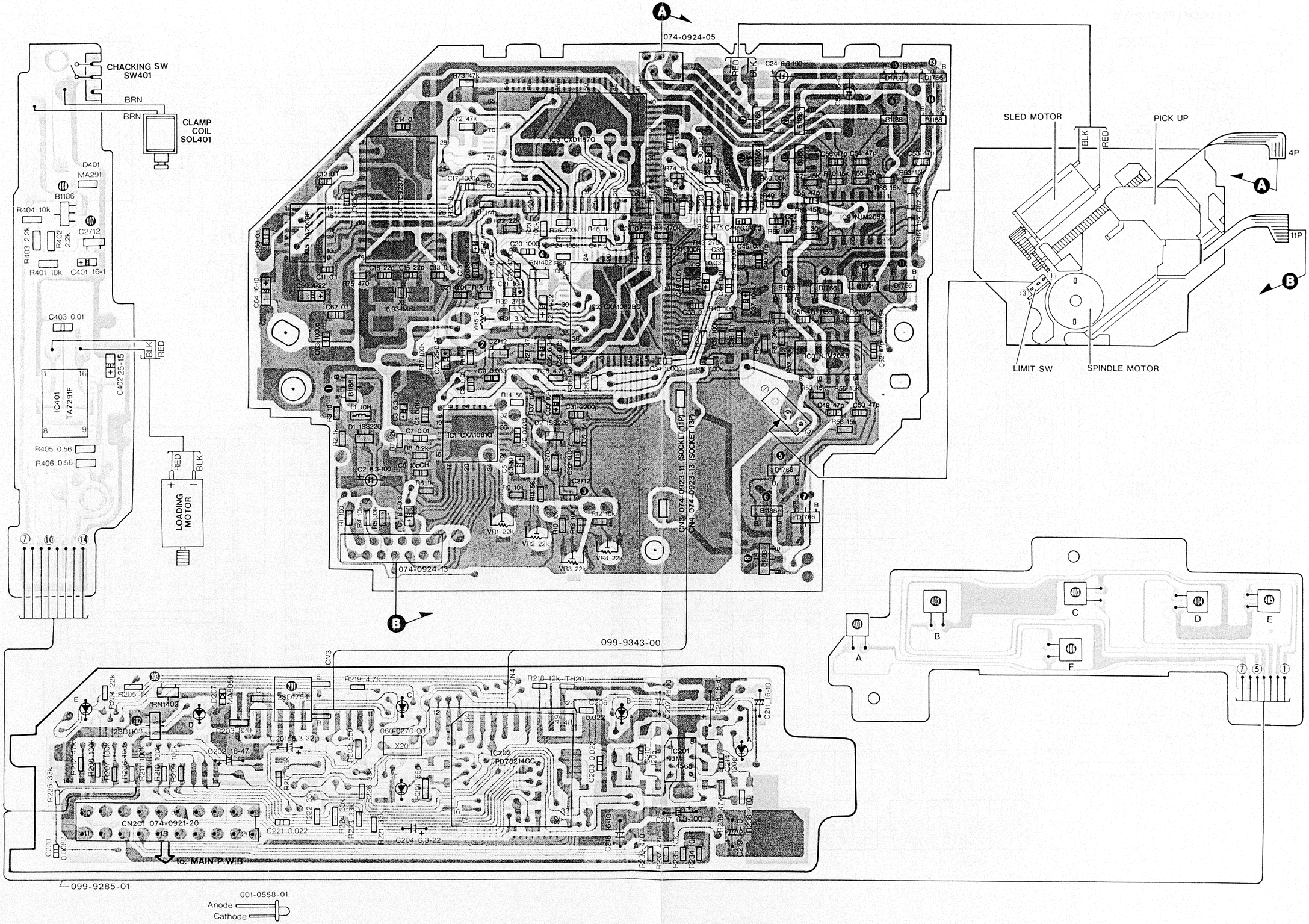
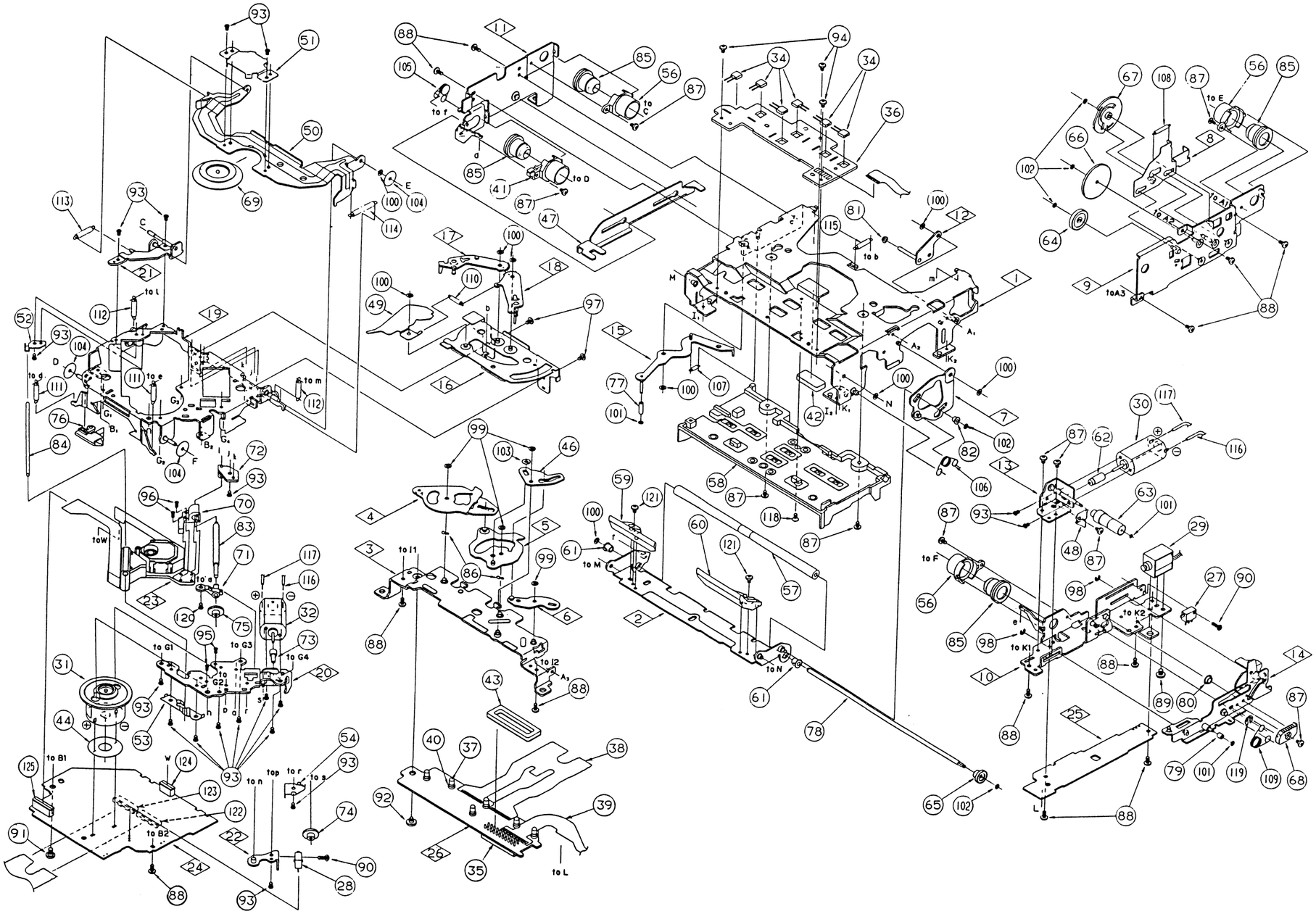


■EXPLODED VIEW • PARTS LIST:

©CD mechanism module section 929-0041-00



NO.	PART NO.	DESCRIPTION	Q'TY
1	966-0129-02	CHASSIS-ASSY	1
2	966-0130-03	LWR-DISC-G-ASSY	1
3	966-0131-03	F-L-CHAS-ASSY	1
4	966-0132-01	F-LOCK-L-ASSY	1
5	966-0133-01	F-L-PLT-R-ASSY	1
6	966-0134-01	LC-LNK-A-ASSY	1
7	966-0135-00	POWER LINK-ASSY	1
8	966-0136-01	TRIG-PLT-ASSY	1
9	966-0137-02	GEAR PLATE-ASSY	1
10	966-0138-03	SFT-P-CHAS-ASSY	1
11	966-0139-04	DMP-BRKT-N-ASSY	1
12	966-0140-00	CLP-LIFT-L-ASSY	1

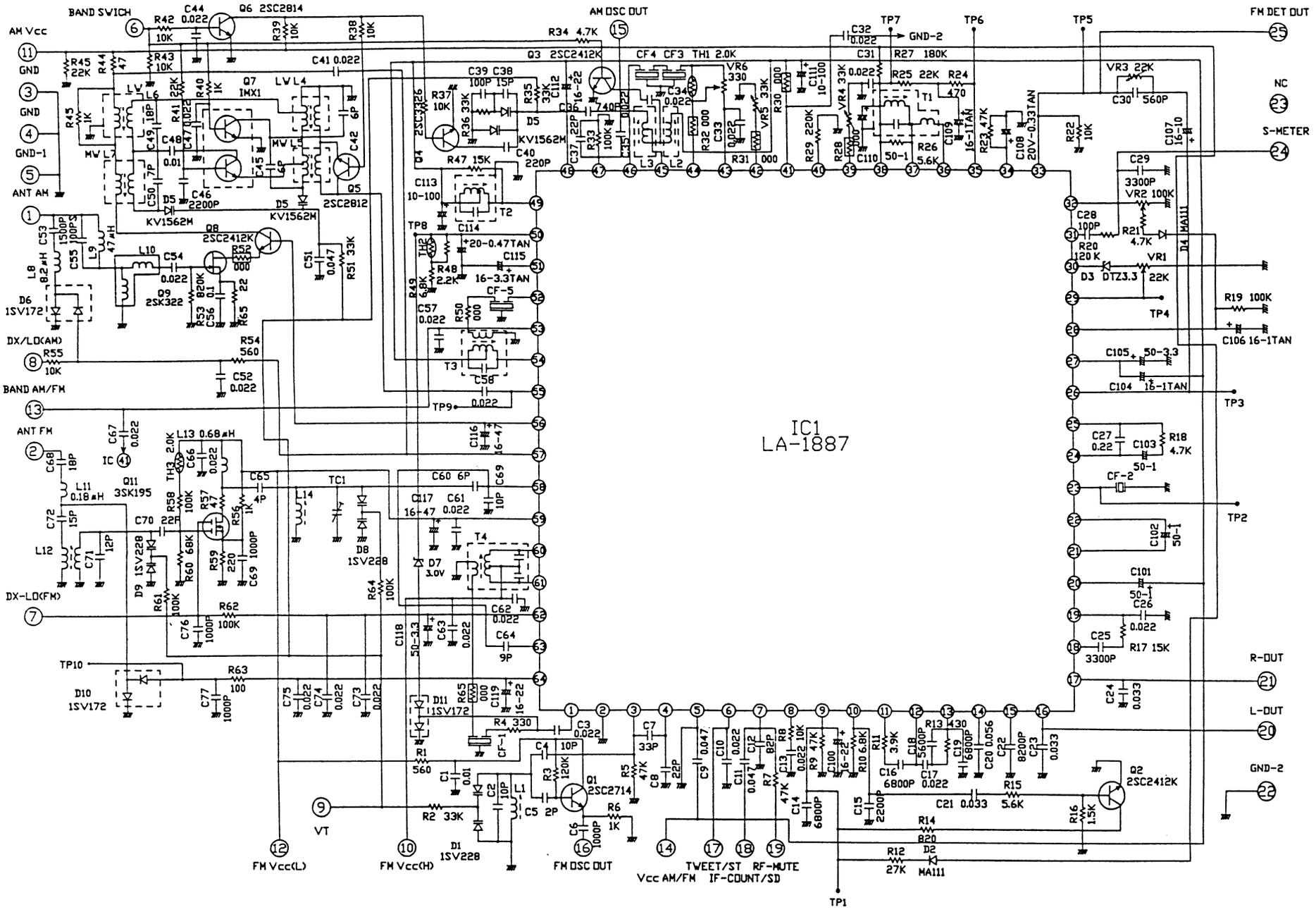
NO.	PART NO.	DESCRIPTION	Q'TY
13	966-0141-02	MOTOR-BRKT-ASSY	1
14	966-0142-03	SHIFT-PLT-ASSY	1
15	966-0143-03	SENSOR-L-ASSY	1
16	966-0144-02	STAGE-P-ASSY	1
17	966-0145-01	STOP-A-L-ASSY	1
18	966-0146-00	STOP-A-R-ASSY	1
19	966-0181-00	DRIVE-P-ASSY	1
20	966-0182-01	DR-MO-BRKT-ASSY	1
21	966-0149-02	SIDE PLATE ASSY	1
22	966-0150-02	SW-PLATE ASSY	1
23	969-0001-00	PICK UP U-ASSY*KSS-168A	1
24	099-9366-01	FLOAT PWB	1

NO.	PART NO.	DESCRIPTION	Q'TY
25	099-9162-00	MECHA PWB	1
26	099-9220-01	CDM2 PWB	1
27	013-3808-10	SWITCH	1
28	013-3808-11	SWITCH *SHORTING	1
29	015-0243-02	PLUNGER	1
30	020-1501-00	DC-MOTOR	1
31	020-1507-00	DC-MOTOR	1
32	020-1508-00	DC-MOTOR*SLED	1
34	060-0237-00	PHOTO-TR *RPM-22B	6
35	074-0921-20	OUTLET SOCKET *20P	1
36	099-9072-01	PWB	1
37	001-0558-01	LED	6

NO.	PART NO.	DESCRIPTION	Q'TY
38	099-9343-00	PWB*FLOAT-FPC	1
39	099-9285-01	PWB*MECH-FPC	1
40	345-4205-00	LED SPACER	6
41	621-0195-00	DUMPER HOLDER B	1
42	345-6962-00	CLAMP-S-SHEET	1
43	345-7021-01	CN-SPACER	1
44	347-3270-00	MOTOR SHEET	1
46	620-0181-00	LOCK LINK B	1
47	620-0187-02	LOCK-L-PLATE	1
48	620-0190-00	MOTOR-BRKT-P-SP	1
49	620-0196-00	LOCK PLATE	1
50	620-0329-00	CLAMPER LINK	1

NO.	PART NO.	DESCRIPTION	Q'TY
51	620-0198-02	CLAMPER PLATE	1
52	620-0202-00	HOLD PLATE	1
53	620-0328-00	SLID-S-PLATE	1
54	620-0204-03	SP PLATE A	1
56	621-0095-00	DUMPER HOLDER	3
57	621-0160-00	LOADING ROLLER	1
58	621-0111-03	U-DISC GUIDE	1
59	621-0112-01	SHUTTER L	1
60	621-0113-01	SHUTTER-R	1
61	621-0114-02	ROLLER SLEEVE	2
62	621-0115-01	WORM GEAR	1
63	621-0116-01	GEAR A	1
64	621-0117-01	GEAR B	1
65	621-0118-01	ROLLER GEAR	1
66	621-0119-01	GEAR C	1
67	621-0120-01	GEAR D	1
68	621-0121-00	RACK	1
69	621-0122-00	CLAMPER RING	1
70	621-0123-99	SCREW HOLDER	1
71	621-0168-01	LS-HOLDER A	1
72	621-0169-01	LS-HOLDER B	1
73	621-0170-01	DR-GEAR A	1
74	621-0171-01	DR-GEAR-B	1
75	621-0172-01	DR-GEAR B	1
76	621-0173-00	FPC GUIDE	1
77	621-0159-00	S-LINK ROLLER	1
78	622-0744-00	ROLLER SHAFT	1
79	622-0745-00	PWR-LNK-ACT-ROL	1
80	622-0746-01	SFT-PLT-G-ROLR	1
81	622-0747-00	CLP-LIFT-ROLR	1
82	622-0748-00	LW-G-PLT-G-ROLR	1
83	624-0011-99	LEAD SCREW	1
84	624-0003-01	SLIDE SHAFT	1
85	629-0028-00	DUMPER	4
86	684-0072-00	PLATE SPRING	2
87	714-2003-81	MACHINE SCREW*M2L3 BIND	10
88	714-2004-81	MACHINE SCREW*M2L4 BIND	12
89	714-2603-81	MACHINE SCREW	1
90	716-0791-00	SCREW *M2	2
91	716-1445-01	PWB-SCREW	1
92	716-1462-01	LED-PWB-SCREW	1
93	716-1468-00	SCREW *M2 2.5	18
94	716-1507-00	SCREW	3
95	739-1725-17	PRECISION SCREW*M1.7L2.5	2
96	739-1730-17	PRECISION SCREW*M1.7L3	2
97	739-2020-17	PRECISION SCREW*M2L2	2
98	743-1500-10	E-RING*1.5	2
99	746-0622-01	WASHER	4
100	746-0624-01	WASHER *2.1T0.25	9
101	746-0724-00	WASHER*1.1T0.25	3
102	746-0761-00	WASHER*1.6T0.25	5
103	746-0827-00	SP-WASHER*2.1T2.25	1
104	746-0846-00	WASHER	3
105	750-2875-01	RO-TO-SP-L	1
106	750-2876-02	RO-TO-SP-R	1
107	750-2877-01	SEN-LINK-SP	1
108	750-2878-00	TRG-PLT-SP	1
109	750-2879-01	SFT-PLT-TO-SP	1
110	750-2880-00	LOCK-P-SP	1
111	750-2881-00	DUMPER-SP-F	2
112	750-2882-00	DUMPER-SP-R	2
113	750-2883-01	CLP-SP-L	1
114	750-2884-01	CLP-SP-R	1
115	750-2885-00	CENTER-SP	1
116	800-4904-60	VINYL-COAT-WIRE*BLACK	2
117	802-4904-60	VINYL-COAT-WIRE*RED	2
118	716-1488-00	SCREW	1
119	744-0037-00	E-RING	1
120	716-1524-00	SCREW	1
121	716-1535-00	SCREW	2
122	074-0923-11	OUTLET SOCKET*11P	1
123	074-0923-13	OUTLET SOCKET*13P	1
124	074-0924-05	OUTLET SOCKET*5P	1
125	074-0924-13	OUTLET SOCKET*13P	1

■TUNER BLOCK Ass'y: 880-2001A



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